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# **Military Enlistment Propensity: A Review of Recent Literature**

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# MILITARY ENLISTMENT PROPENSITY: A REVIEW OF RECENT LITERATURE

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## Military Enlistment Propensity: A Review of Recent Literature

The purposes of this paper are (a) to review and comment on several recent reviews of the literature on enlistment propensity and actual enlistment, (b) to consider implications for directions in marketing, advertising, and recruiting which the Army might take to protect and enhance its base of recruits for the next several years, and (c) update a previously compiled bibliography of research in this area (see Appendix).

### Motivation and Enlistment Research

Factors affecting propensity to enlist and actual enlistment decision-making have been reviewed and discussed several times within the past ten years (Batley et al., 1991; Elig, Johnson, Gade, and Hertzbach, 1984; Lerro, Tagliareni, Batley, and Sellman, 1991). Agreement among researchers has been so consistent that one can feel considerable confidence that a valid set of critical and stable variables has been identified. These paragraphs will provide an overview of these findings and attempt to resolve what residual ambiguity remains with regard to slight disparities in results from various studies.

The most recent and one of the most thorough such documents is a report by Tarver, Miller, and Ginexi (1994) based upon focus groups with recruiters and depth interviews with 200 enlistees undertaken by DMDC in 1990. This report identified eight "frequently mentioned motivations underlying ... enlistment decisions" and a few "other influential factors." The motivations represent composites of reasons given for enlistment. Individual enlistment decisions typically showed relevance to more than one motivation composite category but the authors report that in most cases one category predominated. These categories were derived from subjective judgment rather than from quantitative coding and scoring. The eight motivational categories are:

1. Historical interest-- considered an important underlying motivator; represents long-held interest in a military career, usually stemming from family history or exposure to media.
2. Self-improvement-- desire for enhanced self-esteem, maturity, related qualities; does not reflect desire for economic improvement.
3. Job/skill training-- acquisition of job skills and experience.
4. Money for education-- often these respondents feel that military service is their only route to higher education (usually college) and are willing to exchange their time for this benefit.
5. Floundering-- lack of goals or direction; enlistment decision often spontaneous and heavily influenced by recruiter.
6. Time out-- use of service time to develop career strategy and otherwise prepare an organized life plan.

7. Get away/escape-- somewhat similar to time out group but primarily desiring respite from specific aversive circumstances.

8. No other jobs/prospects-- differ from get away/escape and floundering groups mainly by virtue of having considered alternatives.

Combinations of motivational categories frequently occur. For instance, self-improvement and job/skill training often seem to go together.

The "other influential factors" included Service benefits, enlistment incentives, opportunity for travel, and both positive and negative recruiter behaviors. The authors attempted to delineate personality dimensions as well. They suggested dependent (reliance on advice or wishes of significant others) vs. independent (willing to go against others' advice about enlistment) and goal-oriented vs. exploring as useful conceptual dimensions. The authors said that position on scales representing these dimensions at least partially determines the salience of the eight motivational categories listed above for any given enlistee. Once again however, this conclusion was based upon a perusal of the data rather than upon quantitative analysis. It appears informed and shrewd but remains basically subjective. A weakness of this approach lies in the possibility that motive sets derived in such a manner may overlap. That is, for instance, prospective enlistees assumed to be motivated by a wish for job training may also want self-improvement. Such a single population could be reached by a single appeal, conserving recruitment resources.

The Human Resources Research Organization issued a lengthy two-volume compilation and analysis of data from the same set of interviews and focus groups (Lerroy et al. 1991). The earlier volume summarized findings by service and component and the later one presented case studies in more detail. These authors also found it reasonable to group enlistment motivations into categories closely resembling those listed above, in this case economic, personal, and environmental.

Lougee (1993) compared new recruits' primary reason for enlistment to hypothetical reasons offered by a general sample of American youth. Overall, the reasons offered by each group were strikingly similar to each other and to reasons found in other similar studies. However, there were interesting differences. For instance, the subjects who had already enlisted were four times as likely as the general group to cite an aspect of personal self-betterment as the primary reason. The latter, on the other hand, were significantly more likely to cite skill training and almost twice as likely to cite patriotic motives. There is no way to tell, of course, whether these differences represent special characteristics of enlistees or a change in perspective after enlistment.

These relatively recent studies essentially corroborate repeated previous findings based upon more quantitative data analysis, with regard to the motivations identified by new recruits as significant in their decision. Further, a factor-analytic comparison of enlistment motivation which compared new recruits to respondents in the 1983 (Army) Survey of High School Seniors produced similar patterns for the groups (Gade & Elig, 1986). Other analyses of New Recruit Survey data have yielded similar findings, typically identifying four or five motivational foci.

One group of motives appears to be centered around intangibles of personal character and strength. These responses seem to indicate a desire for self-confidence and self-respect. Military service is anticipated as a passage into independent adulthood based upon personal performance under stress. There may be for some respondents a flavor of self-testing through leaving familial protection for an unknown environment where one must make one's way unaided. However, there are few social milieus requiring more teamwork and interdependence than the military (though of course it is peer cooperation rather than familial support).

Closely related to this quest-like expectation is a desire to step back from life and gain new perspective. These responses suggest a moderate level of anxiety perhaps deriving from a sense of being inexorably drawn into life choices and commitments prematurely. A chronological young adult who is an emotional adolescent will experience dysphoric familial and societal pressures to enter a committed adult lifestyle before he or she feels ready. The military can serve more than one purpose for such a young person. In it, he or she can hope to grow into adulthood sheltered temporarily from pressures to commit, or at least that may be the fantasy driving respondents for whom this motivational category predominates.

Another group of related motivations for enlisting is also based on perceived need for self-improvement, but seems more pragmatic. Respondents in this category show direction and focus, viewing military service as a means to specific, well-defined end. The rewards most frequently sought by respondents in this category are money for college, and training either unspecified or for a particular vocation. These respondents have probably resolved some of the intrapersonal issues driving those who respond according to the motivational categories described above.

Another motivational direction points toward a desire to serve others. These responses most usually point toward service to country but sometimes seem driven by desire to protect family or community from some feared menace -- world communism most notably, until the very recent past. Often respondents

predominantly motivated by patriotism come from families where military service is a tradition and have held favorable attitudes toward the military throughout their lives as part of their core value system.

A final motivational complex seems to encompass a need to escape from one or more of a variety of problems, usually environmental or economic. Running away to the military is a time-honored way to escape unwelcome marital obligations. Long-term unemployment or perceived underemployment with no apparent prospect for improvement may drive responses of this type, as can untenable living arrangements with no other means for change. Respondents in this category seem to feel that they are moving away from something negative in their lives, rather than moving toward something they want.

There is a surprisingly small residual category of predominant motivations which sometimes (depending upon the study) may be comfortably subsumed within one of the above major groupings. These mainly include rewards that are intrinsic to military life rather than expressed as required means to an end. Travel, job security, and retirement benefits are examples of these. Respondents who identify these factors as their main reasons for enlisting are likely to be rather concrete and relatively uncomplicated. Their horizons are apt to be limited, but if they find a niche in the military they are likely to stay.

#### Primary Decision Influencers

It is likely that for any given individual the most valid and reliable measure of influencer importance is to be derived from interviews in person rather than from questionnaire write-ins or response to multiple choice. The Lerro et al. (1991) and Tarver et al. (1994) studies provide very clear and unambiguous conclusions that by far the most influential advisors with regard to virtually all life decisions for enlistees, certainly including the enlistment decision, are parents. Even recruits for whom it seemed important to make it known that they themselves made the decision consulted parents and appreciated their support. Mothers were a little less positive than fathers toward the enlistment decision, often citing then-current Gulf War dangers as their reason for opposing their child's enlistment. In most cases initial maternal opposition to enlistment changed to support, apparently reflecting better understanding of the reasons for enlistment and more accurate and complete information about military life, but perhaps acknowledging the inevitable as well.

Lerro et al. (1991) refer to the total group of primary influencers as "role models". Parents are most frequently mentioned as role models by recruits, fathers more frequently than mothers, by female recruits as well as males. Other persons

frequently mentioned as secondary to parents but of significant importance in influencing the enlistment decision were friends or relatives associated with the military. Perhaps somewhat surprisingly, only peers with military experience of their own were identified as important sources of influence on enlistment. Less frequently so identified were a miscellaneous group designated "distinctive individuals" by Lerro et al., including neighbors and friends' parents.

This finding that parents are of paramount importance for influencing the enlistment decision is entirely consistent with the body of previous research.

### Implications for Marketing and Advertising

Ways in which the Army might influence factors relating to the strength of propensity can be classified as either direct or indirect; the latter probably outnumber the former. As a simple example of a direct effect, if assistance with the expense of higher education is an important factor then increases in the post-service educational support stipend, more time off for off-duty study, and payment of all reasonable tuition expense, could be expected to result directly in increased propensity to enlist, at least to the extent that these factors are causal.

As an example of an attempt to influence propensity indirectly, consider some of the aversive environmental factors enlistees cite. The Army obviously cannot affect the quality of neighborhood life nor the probability of finding a civilian job that does not seem like a dead end. Nor can the Army modify a disagreeable family situation. But if these circumstances are important for a significant number of potential enlistees, advertising and marketing campaigns could play to them in such a way to emphasize the Army as a safe haven with opportunity for a new start. The effects of such an indirect approach would probably be considerably more difficult to measure than a campaign catering to direct benefits but may be the only way to affect these powerful determinants of propensity.

### Direct Influencers

These include financial inducements, educational benefits, unit assignment, and career commitments. Factors such as these vary with respect to the degree to which the Army can control their levels, but when changes can be made they are obvious and quantifiable. Authority to issue pre-enlistment career promotion or retention commitments (presumably contingent on performance and ratings), for instance, would require high-level civilian approval. According to USAREC the current downsizing and consequent weakening of the traditional security of a military career has not so far affected enlistment propensity, and therefore no immediate purpose for such an innovation exists.



Raising and lowering pay scales requires Congressional action, though considerable redesign of the structure of enlistment bonuses can be done within the Army. The Enlistment Incentives Review Board meets quarterly, with representation from USAREC. It receives information on resources, needs and shortages, both current and projected. The Board constantly revises cash bonuses and access to educational funds both in amount (within a Congressionally-determined ceiling) and allocation among MOS groups.

#### Indirect Influencers

These are the intangibles: Patriotic appeals, coming-of-age, comradeship, self-worth, quest and adventure, and escape from boredom or problems.

The Army has considerable control over appeals to these less quantifiable sources of motivation primarily through the Public Affairs and Advertising Directorate, which works with in-house technical specialists and an outside advertising agency. Usually the ad agency, which typically conducts its own research but monitors YATS and similar surveys closely, provides periodic reviews of marketing and advertising effectiveness, plus ideas for new thrusts. Usually a major theme is maintained until market conditions have changed drastically - Be All You Can Be, for example, has been extant since 1980.

Within organizational and financial constraints that are likely to remain for the foreseeable future there are no obvious major changes to be recommended currently without further study. Research on regional emphasis of specific motivational appeals should be considered, but these should come from careful studies undertaken by marketing and advertising professionals, using data segmented for class, ethnicity, and region. For instance, while parents are quite important in influencing the enlistment decision for nearly all enlistees, they are even more frequently mentioned and appear to be even more important for recruits from Oriental backgrounds. For this group, views of other family members appear to be considerably more salient than is the case for other ethnic groups. As another example, circumscribed campaigns for recruitment in severely economically depressed or dangerously crime-ridden neighborhoods might emphasize order, benign predictability, and dependable pay in Army life.

It would be interesting to consider using a more varied set of motivational appeals tailored to more specific circumstances and environments, and attendant local control in employing them. With vastly increased societal diversity, broad appeals may be less effective than more narrow and focused ones. The proliferation of special-interest magazines and television programming might lend itself well to this consideration.

## Review of Databases

This literature review is based on a search of two major databases: the Defense Technical Information Center (DTIC) database, which lists publications produced by government defense Department contractors and agencies; and PsycLIT, which is maintained by the American Psychological Association and includes articles published in peer refereed social science journals. This review was intended to focus on recently published articles to update a 1991 HumRRO report, Compendium of Annotated Military Manpower Market Research Abstracts, prepared for the Defense Manpower Data Center. That review identified a number of items published through 1990 and this paper adds relevant listings through early 1994.

### Database Search

The DTIC database was searched with three general strategies resulting in more than 1,000 references.

1. For the years since 1990, DTIC was searched to identify publications containing a general reference to military service, using the terms: military, Army, Air Force, Navy, or Marines), and a general reference to enlistment propensity, using the terms enlistment, propensity, motivation or recruit.

2. The entire database (all years) was searched for publications with a specific reference to propensity and a general reference to military service. This strategy identified a number of pre-1991 citations within DTIC that were not contained in the HumRRO report.

3. The entire DTIC database (all years) was searched for references to: the National Longitudinal Survey of Youth, the Army Communication Objective Measurement Survey (ACOMS), the Youth Attitudinal Tracking Survey (YATS), or the Army Experience Survey.

The PsycLIT database was searched to identify articles with a reference within any database field to a military service, or a reference to enlistment propensity, using the same terms listed above. This strategy identified more than 90 refereed journal articles. In addition, the names of individuals who produced several relevant government technical reports were searched within the PsycLIT database to identify their most substantial contributions.

Articles, including surveys, analyses, summaries, and commentaries, were catalogued through the computer-based searches and then reviewed to identify those deemed useful in understanding the enlistment decision process. Articles were included if they provided information relevant to enlistment into any of the American military services. To be consistent with the earlier HumRRO product these articles were clustered in accordance with the sorting scheme used by HumRRO. Articles which cross categories were cross-referenced.



It is important to recognize that most surveys were intended to track general population trends and were not developed to model individual differences or the enlistment decision. Articles were clustered on the basis of survey title (e.g., the YATS) and there is tremendous repetition across years with respect to the information contained within articles.

#### Areas for Further Research

As a general statement, the emphasis on population trends has appeared to result in little research using variables that quantify individual differences. However, research with individual difference variables such as intelligence and personality seems critical if a model is to predict enlistment. This and several other areas of research might yield important information about the enlistment decision process.

First, systematic refinement of measures of propensity should be undertaken. Little effort has been expended on identifying or evaluating alternative procedures to quantify enlistment propensity. For instance, YATS and ACOMS each quantify enlistment propensity by combining (a) a response to an open ended question requesting the applicant to state likely career outcomes, and (b) a Likert rating generated by the subject to quantify his/her likelihood of joining the military. They then combine this information to place individuals into three to five propensity categories. The measures employed may or may not represent the optimum information on which to base this judgment.

Although the value of the current propensity measure is not trivial (individuals with the greatest self-reported propensity have a .33 probability of enlisting, while those with the lowest propensity have a .06 probability), it seems reasonable that the predictive power of a propensity scale could be substantially improved. The weakness of this approach is suggested by the fact that a majority of all recruits and a vast majority of all civilians fall into the lowest propensity group; within this group, individual differences in enlistment propensity can not be calculated. In addition, the measure appears unsophisticated from psychometric perspectives (e.g., the limited number of items).

One approach to improve the measure might require the subject to rate the likelihood of a military career in relation to other career choices. At the least this approach would allow a general response bias effect to be factored out at the individual level, while the approach might also link military propensity to interest in other broadly defined career areas. Another approach is to develop and ask related questions (e.g., "How likely is it that you would accept an employment position that requires you to move fairly frequently?").

Second, the impact on enlistment propensity of such individual characteristics as intelligence, personality, temperament, and body type should be considered. Although ongoing research within DOD has linked temperament to attrition and to soldier performance (e.g., studies employing the Assessment of Background and Life Experiences [ABLE] scale) it has not adequately addressed the role of individual characteristics such as temperament or personality in predicting enlistment. Given that the ABLE is a useful predictor of attrition, it seems reasonable to speculate that the scale might predict enlistment. As a more general statement, some personality types may be more attracted to or more consistent with a military career. Other types may show the reverse, a characterological unfitness for military life.

Third, the role of general military familiarity, as opposed to knowledge only of military benefits and pay, may play an important and as yet unexamined role in propensity to enlist. Existing surveys have focused on knowledge of military benefits (as quantified by slogan recognition) and have ignored general knowledge of the military. However, an interaction between stated propensity and knowledge of military life, as opposed to knowledge merely of military benefits, seems to be a reasonable hypothesis. Individuals who express extremes of propensity either toward or away from military enlistment but know little of military life might be more likely to change their position as a result of learning more about it. Specifically, individuals who know little about the military or military life and express negative propensity would be expected to be relatively easier to influence and more likely to enlist than individuals expressing the same negative propensity but substantial knowledge. One might also speculate that familiarity with military life may partially explain the higher enlistment rates of military dependents.

Fourth, the influence on enlistment of political ideology, religiosity, and other values and belief systems should be considered.

Although little research with the general civilian youth population has addressed these characteristics and military enlistment, it seems clear that values play an important role at least for enlistees motivated primarily by patriotism and desire to serve. It is a reasonable hypothesis that for others as well values and beliefs play at least some role in all enlistment decisions. At one time at least a few military recruits expressed an idealism similar in some ways to that which appears to motivate volunteers to the Peace Corps and other international service organizations. Perhaps there is the basis for such an appeal now. On the other hand, if a recruit's basic value system can be revealed as inimical to success in the Army he or she is not a good prospect.

The general likelihood of engaging in civic behaviors increases with intelligence. It is not clear if the lower enlistment rate of AFQT high scorers reflects decreased commitment to general geopolitical ideals, an increased competition from other sources (e.g., university scholarships, Peace Corps), or simply results from a perception of service in the Army as irrelevant to such interests.

Fifth, the influence of family, peers, and student guidance counselors on the enlistment decision clearly is important. The ways in which these influences interact to affect enlistment deserves elucidation.

Although ongoing research at ARI is linking the attitudes of parents and progeny, quantified information is lacking on the role of peers or the potential of school guidance counselors in shaping attitudes toward the military and in the enlistment decision. Although the DMDC interview study (Lougee, 1993) indicates that peers are not significant role models for enlistment unless they have served in or are otherwise identified with the military, it seems reasonable to expect that the siblings of friends and peers may serve as role models and provide general information concerning career opportunities under some circumstances.

Sixth, a theoretical conceptualization of military enlistment propensity within a general model of career choice is needed.

Most enlistment and propensity research has focused on the prediction of military enlistment as opposed to any other career choice, neglecting choice within the military MOS system. A study of propensity for choosing combat arms specialties could help to identify especially desirable prospective recruits. A more inclusive perspective may lead to the development and evaluation of a general career model to identify individual characteristics that are associated with various and competing careers.

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## Appendix

### Recent Abstracts

#### National Longitudinal Surveys of Youth Labor Market Experience

Bicaksiz, A. (1992). A PC-based Model for Estimating Regional Recruit Markets. Naval Postgraduate School, Monterey, CA.

This thesis develops a personal-computer-based (PC-based) model to utilize research results for the estimation of male high quality (HQ) and high-tech (HITEC) qualified military available (QMA) population. HQ QMA are 17-21 year-old high school graduates scoring above the 50th percentile on the Armed Forces Qualification Test (AFQT). HITEC QMA are the HQ QMA who are mentally eligible for highly technical military occupations. Research underlying the PC-based model estimates multinomial logistic regression equations using the National Longitudinal Survey of Youth Labor Force Behavior (NLSY) data over a set of explanatory variables for which data are available at the county level. Using the PC-based model, nationwide county-level measures of regional male recruit markets by size and mental quality for 1990 through 2010 are estimated. The PC-based model and the nationwide market estimates may be useful in recruiting management decisions such as resource allocation and recruiter goaling.

Boesel, D.P. & Richards, J.A. (1983). Enlistment Motivation in the All-Volunteer Force Environment: A Review of Major Surveys. Alexandria, VA: Defense Manpower Data Center.

This review concentrates on self-reported reasons for enlisting in the military. These resemble attitudinal data and must be regarded as only one kind of variable contributing to enlistment. Others include aggregate variables such as unemployment rates and military pay, and individual variables such as parental occupation and respondent education, among others. A variety of multivariate analyses are currently being conducted in an effort to sort out the relative contributions of each, as well as the interactions among them. (Author)

Brown, M.B. (1993). An Analysis of the Propensity for Nontraditional Occupations Among Civilian and Navy Women. Naval Postgraduate School, Monterey, CA.

This thesis explores women's propensity to select nontraditional occupations. Specifically, it analyzes the desired occupations of a sample of civilians of enlistment age and a sample of Navy enlistees. Data taken from the Navy's 1991 New Recruit Survey and the 1979/1982 National Longitudinal Survey of Youth are analyzed to determine differences in propensity between young civilian women and female enlistees. Differences in

occupational preferences between male and female civilians and male and female enlisted personnel are analyzed. Multivariate regression models are developed indicating factors that affect women's occupational choices for both the Navy and civilian samples. The study reveals that Navy women are more likely than young civilian women to choose nontraditional occupations. Young civilian men and male Navy enlistees are more likely than either civilian women and female Navy enlistees to choose nontraditional occupations. Three determinants of nontraditional occupational choice are consistent across female models using both civilian and military samples. Women of high ability, who desire high-tech training, and who expect uninterrupted labor force participation have higher propensity for nontraditional jobs than other women. Recommendations are for focused advertising to attract those women into the Navy who desire nontraditional occupations. Outreach in high schools and during the recruiting and enlistment process also can identify those women with greater propensity for nontraditional ratings.

Choi, B.O. (1992). Estimating High Tech Army Recruiting Markets. Naval Postgraduate School, Monterey, CA.

This thesis presents exploratory model-building for identifying and analyzing the recruiting market for highly technical occupations for the Army of the future. The high-tech ratings were defined based upon their technical characteristics, qualification rates of the youth labor market, and the Army force structure. Using data from the National Longitudinal Survey of Youth (NLSY), three regression equations were developed to estimate mental eligibility for high-tech ratings as well as interest in joining the military and actual joining behavior, so that recruiting commands can allocate recruiting resources more accurately and efficiently. These prototypical equations and this method of measuring the recruiting market for high-tech ratings provide a good beginning for estimating the recruiting market for any specific occupation.

Gorman, L. & Thomas, G.W. (1993). General Intellectual Achievement, Enlistment Intentions, and Racial Representativeness in the U.S. Military. Armed Forces & Society, 19, 611-624.

This article examines the effect of various economic and demographic variables on an individual's enlistment intentions. This article's hypothesis is that models of military participation that ignore general intellectual achievement are misspecified and will place undue emphasis on race. This study used a sample of 1,910 young men from the 1979-1987 National Longitudinal Survey of Youth (NLSY). Results suggest that for male high school graduates the variation in intent to enlist depends on general intellectual achievement, age, and poverty status as well as race. The models that did not include measures

of general intellectual achievement tended to overstate the importance of race as a predictor of enlistment intentions.

Hosek, J.R. & Peterson, C.E. (1990). Serving her Country: An Analysis of Women's Enlistment (Report No.RAND/R-3853-FMP). Santa Monica, CA: Rand Corporation.

Using data drawn from a 1979 Department of Defense survey of enlistees and the 1979 wave of the National Longitudinal Survey of Youth Labor Force Behavior, this report examines one aspect of women's military service--the factors affecting the flow of new recruits. The analysis uses models of both individual willingness to enlist and the allocation of recruiter effort to enlist women and other groups. These models, estimated with a microdatabase containing many individual and local market variables, make it possible to circumvent the distorting effects of the overall demand constraint that has, in the past, jeopardized aggregate data analyses of women's enlistment. The authors compare the options and behavior of women with those of men. For example, they consider whether labor market forces influence young men and women differently; the ways in which marriage expectations affect the enlistment decision; whether the role of education expectations differs between the two sexes; and what impact local labor market conditions have on the individual's enlistment outcome. The research suggests that there are strong similarities between men and women in the factors influencing their enlistment decisions.

Hosek, J.R. & Peterson, C.E. (1985). Enlistment Decisions of Young Men. Santa Monica, CA: Rand Corporation.

This study analyzes factors in the enlistment decisions of two segments of the recruiting market: high school seniors, and nonstudent high school graduates. It draws on data from the 1979 Department of Defense Survey of Personnel Entering Military Service and from the 1979 wave of the National Longitudinal Survey of Labor Force Behavior, Youth Survey. The authors base their empirical analysis on hypotheses derived from the theories of investment in human capital and career choice, and on the theory of recruiter behavior. They find that seniors and graduates differ substantially in the empirical determinants of their enlistment decisions; education of their enlistment decisions; education expectations play a major role in enlistment behavior; and a graduate's enlistment probability is much less in areas with a fairly high proportion of seniors and recent graduates, whereas a senior's enlistment probability is unaffected.

Lockman, R.F. & Curran, L.E. (1984). The Missing Link in DoD Recruit Attainability Projections (Report No. CNA-CRM-84-2). Alexandria, VA: Center for Naval Analyses.



A link between youth's attitudes toward military service and their subsequent enlistment behavior was tested. It was used to project DOD enlistments through the year 2000 under conservative assumptions. Enough qualified volunteers should be available to meet the DOD accession requirements programmed for the future.

Moreau, E.E. (1992). Forecasting High-Tech ASVAB Scores. Naval Postgraduate School, Monterey, CA.

Development of model for estimation of a high-tech market population is essential for determining an efficient allocation of recruiting resources. Using data from the National Longitudinal Survey of Youth (NLSY), regression equations are used to estimate the probability that a 17 to 21 year old, high school graduate will score high enough on the Armed Services Vocational Aptitude Battery (ASVAB) to be classified into a high-tech rating. This probability is modeled as a function of sociodemographic variables including gender, race/ethnicity, parent's education, poverty status, income, residence in an urban area, and receipt of welfare payments. Best fit equations are developed in order to facilitate calculations of nationwide, county-level, high-tech market distributions.

Uslar, H. (1991). A Prototypical Model for Estimating High Tech Navy Recruiting Markets. Naval Postgraduate School, Monterey, CA.

This thesis presents a method for identifying and analyzing the recruiting market for highly technical Navy ratings. A basic model estimates the eligibility for six market segments for four mental outcomes, (1) high tech, (2) high quality and not high tech, (3) mental category 3B and (4) not eligible for the military labor market. A second model estimates the interest in military employment for each market segment given their likelihood of being qualified for the highly technical ratings. The third model is based on the results of the first two models and estimates the actual joining behavior of each market segment of the high tech market given their level of interest in the military.

Army Communication Objectives Measurement System (ACOMS)

Baker, T.A. (1990). A Cross-Sectional Comparison of Army Advertising Attributes (Report No. ARI-RR-1578), Alexandria, VA: U.S. Army Research Institute.

This research examined the advertising attribute items from the New Recruit Survey (NRS), Recruit Experience Tracking Survey (RETS), and the Army Communications Objectives Measurement Survey (ACOMS). The data analyzed were collected from 1986 to 1989. The attribute items asked respondents for their perceptions of various opportunities offered by the Army. Factor analyses



resulted in three factors for the NRS, two for the RETS, and one for six of the eight ACOMS samples. The common factors found related to self-improvement and work/education. Mean comparisons within each survey found that respondents perceived self-improvement attributes and money for education as greater opportunities than aspects of work. Comparisons across surveys found that new soldiers (NRS) perceived greater Army opportunities than experienced soldiers (RETS) and youth (ACOMS). The youth sample perceived more Army opportunities than experienced soldiers. Issues concerning inflated expectations of new soldiers, the different frames of reference employed by each sample, and the appropriateness of the items are presented.

Baxter, S. & Gay, N.L. (1988). The Message Content of Advertisements for Active Army Enlistments. Rockville, MD: Westat, Inc.

This report describes the message content analysis undertaken as part of the Army Communications Objectives Measurement System (ACOMS) project. The results are based on a sample of 3,665 male and female 16- 24-year-olds who viewed 13 video and 11 print active Army advertisements. The analysis of the data indicates that unaided recall of Army sponsorship is made by a high percentage of respondents when video and print ads are initially displayed in the midst of other advertisements. The message attributes rated most highly by the video-advertisement viewers concerned high technology equipment, an experience to be proud of, and an opportunity to develop one's potential. Print-advertisement respondents perceived messages dealing with money for education, skill training, and experience to be proud of. Statistically significant differences were found between the genders and among ethnic groups for many of the Army attributes perceived in the advertisements. Generally, males and whites perceived the attributes more frequently than females and blacks, respectively. Analysis of main messages confirms that the attributes capture the vast majority of messages conveyed, although an attribute focusing on adventure and excitement could be added.

Gaertner, G.H., Nieva, V.F., Elig, T.W. & Benedict, M.E. (1988). The Army Communications Objectives Measurement System (ACOMS): Quarterly Reports. Rockville, MD: WESTAT, Inc.

This Army Communications Objectives Measurement System (ACOMS) document contains the quarterly reports for Fall 1986, Winter 1987, Spring 1987, Summer 1987, and Fall 1987. Introductory material describes the ACOMS project and explains how to interpret the quarterly reports. Each report contains a brief overview of the quarter's data collection efforts and presents the major results of youth interviews conducted during the quarter. The findings are presented in a series of data tables accompanied by summary text and are further interpreted in the

overview chapter. Tables presenting significant quarter-to-quarter changes and the signs (+ or -) of changes that are not statistically significant are also provided in the last four quarterly reports. Discussion of these tables is also included in the summary text. The ACOMS survey is a multiyear telephone survey of a nationally representative sample of 16 to 24-year-old American youth and their parents. The survey tracked changes in perceptions, attitudes, and behaviors relevant to Army advertising. Data were collected throughout the year, using computer-assisted telephone interviewing (CATI) technology. A modified Waksberg method of random digit dialing (RDD) was used to identify eligible respondents. During the 30-minute interview, youth were also asked about Army advertising, media habits, career plans, and various demographic characteristics. A parent of selected 16- to 20-year-old respondents who met certain eligibility requirements was also interviewed on parallel topics.

Greenlees, J.B. (1988). The Army Communications Objectives Measurement System (ACOMS): 'Tour of Duty' Viewing Patterns (Report No. 945269). Rockville, MD: Westat, Inc.

This report summarizes analyses conducted on patterns of watching the television show 'Tour of Duty' among respondents to the Army Communications Objectives Measurement System (ACOMS) survey who were interviewed in the fifth quarter of data collection (October-December 1987). Analyses were conducted both on all respondents asked questions on their media habits and on those who watched more than the average number of hours of television per week. Differences between respondents who did and did not watch the program were assessed by market segment, recall of Army advertising, perceptions of Army attributes, intent to enlist and enlistment-related behaviors, and importance of Army attributes. The ACOMS survey was a multiyear telephone survey of a nationally representative sample of 16- to 24-year-old American youth and their parents. The survey was designed to track changes in perceptions, attitudes, and behaviors relevant to Army advertising. Data was collected continuously through the year, using computer-assisted-telephone-interviewing (CATI) technology. Random digit dialing (RDD), involving a modified Waksberg method, was used to identify eligible respondents. The 30-minute interview asked youth about their responses to Army advertising, media habits, career plans, and various demographic characteristics.

Howell, R.D., Wilcox, J.B., & Wilkes, R.E. (1988). Modeling the Effects of Army Advertising. Research Triangle Park, NC: Battelle Columbus Labs.

This research was performed to develop and empirically examine a set of prototype behavioral models designed to measure the effects of Army advertising on the decision to enlist in the Army. Data were taken from the Army Communications Objectives

Measurement System (ACOMS) project. Psychometric properties of each of the model's components were assessed and parameters of the overall models were estimated using covariance structural modeling. The potential benefits of this approach were examined and recommendations were made for development of future models.

WESTAT Inc. (1988). The Army Communications Objectives Measurement System (ACOMS) Users' Manual (Report No. 945265). Rockville, MD: WESTAT, Inc.

This report documents the Army Communications objectives Measurement System (ACOMS) survey datafiles. It contains instructions for the use of the documentation: the ACOMS Cumulative Change Form; the ACOMS Annotated Questionnaire, which documents the survey questionnaire items and corresponding variables; variables names listed both alphabetically and by order number; and the ACOMS codebook, which documents the contents of the data files. The ACOMS survey is a telephone survey of a nationally representative sample of 16- to 24- year-old American youth and their parents. The survey tracked changes in perceptions, attitudes, and behaviors relevant to Army advertising. Data were collected continuously through the year, using computer-assisted-telephone-interviewing (CATI) technology. Random digit dialing (RDD), involving a modified Waksberg method, was used to identify eligible respondents. The 30-minute interview asked youth about their responses to Army advertising, media habits, career plans, and various demographic characteristics. A parents of selected 16- to 20-year-old respondents who met certain eligibility requirements was also interviewed on parallel topics.

Westat, Inc. (1988). The Army Communications Objectives Measurement System (ACOMS): Codebook for the Message Content Analysis Data File. (Report No. 945262). Rockville, MD: Westat, Inc.

This report documents the data file from the Message Content Analysis survey, a component of the Army Communications Objectives Measurement System (ACOMS). The description of the data file and the same job control language necessary to access the file on the National Institutes of Health computer are provided. The codebook for the data file and the two questionnaires used in the survey are also provided. The Message Content Analysis surveyed a sample of 16-to 24-year-old males and females who viewed 1 of 13 video or 11 print Active Army advertisements. Variables include demographic characteristics of respondents, unaided and aided intention to join the Army, recall of ad sponsorship, main message, and rating of message attributes. The design, methodology, results, and conclusions of the study are reported in The Message Content of Advertisements for Active Army Enlistments (Baxter & Gay, 1988).

## New Recruit Surveys

Benedict, M.E., Elig, T.W. & Kopischke, D.W. (1987). The 1986 ARI Survey of U.S. Army Recruits: Codebook for Active Army Survey Respondents. Eden Prairie, MN: Data Recognition Corporation.

This is one of eight reports produced to document the 1986 Army Research Institute Survey of U.S. Army Recruits, also known as the New Recruit Survey (NRS). This volume concentrates on the data file documentation and the use of survey data obtained from Active Army Respondents. A separate volume that documents the survey data files for Active Army Reserve and National Guard respondents is available. A brief project overview is provided, as well as an instructional narrative pertaining to the codebook-based interpretations and use of the 1986 data. Documentation is provided for the development of special variables from Army personnel records and recoding for survey items. Other reports in this series provide more extensive background documentation of the 1986 New Recruit Survey. Tabular descriptions that present the preliminary results of the 1986 survey separately for each Army component are available.

Benedict, M.E., Elig, T.W. & Kopischke, D.W. (1987). The 1986 ARI Survey of U.S. Army Recruits: Codebook for Army Reserve/National Guard Survey Respondents. Eden Prairie, MN: Data Recognition Corporation.

This is one of eight reports produced to document the 1986 Army Research Institute Survey of U.S. Army Recruits, also known as the New Recruit Survey (NRS). This volume concentrates on the data file documentation and the use of survey data obtained from Army Reserve and National Guard Respondents. A separate volume that documents the survey data files for Active Army respondents is available. A brief project overview is provided, as well as an instructional narrative pertaining to the codebook-based interpretations and use of the 1986 data. Documentation is provided for the development of special variables from Army personnel records and recoding of survey items. Other reports in this series provide more extensive background documentation of the 1986 New Recruit Survey. Tabular descriptions that present the preliminary results of the 1986 survey separately for each Army component are available.

Benedict, M.E., Elig, T.W. & LaBatte, J.A. (1987). The 1986 ARI Survey of U.S. Army Recruits: Tabular Descriptions of NPS Army Reserve Accessions. Volume 1. Eden Prairie, MN: Data Recognition Corporation.

This is one of eight reports produced to document the 1986 Army Research Institute Survey of U.S. Army Recruits, also known as the New Recruit Survey (NRS). This is volume 1 of a two-volume set of cross tables describing the attitudes, demographics, and service-related characteristics of non-prior-service Army Reserve recruits during the summer of 1986. Tabulation volumes contain an introduction to the 1986 NRS reports series and project overview; an explanation of how to read and interpret tabulations; a set of two-way tables of NRS items crossed with five banner variables; and in a technical appendix the survey instrument used in the summer of 1986. Separate tabulation volumes were produced for each of the three Army components: the regular active Army (RA); the U.S. Army Reserve (USAR); and the Army National Guard (ARNG). Tabulations reflect data gathered during the summer administration of the survey. The crossings variables used in each tabulation volume include demographic and service-related characteristics that vary across components. Other reports in this series provide more extensive documentation of the background and approach to the 1986 NRS administration. Other reports are also available for the 1982, 1983, 1984 (summer and winter), and 1985 survey administrations.

Benedict, M.E., Elig, T.W. & LaBatte, J.A. (1987). The 1986 ARI Survey of U.S. Army Recruits: Tabular Descriptions of NPS Army Reserve Accessions. Volume 2. Eden Prairie, MN: Data Recognition Corporation.

This is one of eight reports produced to document the 1986 Army Research Institute Survey of U.S. Army Recruits, also known as the New Recruit Survey (NRS). This is volume 2 of a two-volume set of cross tables describing the attitudes, demographics, and service-related characteristics of non-prior-service Army Reserve recruits during the summer of 1986. Tabulation volumes contain an introduction to the 1986 NRS reports series and project overview; an explanation of how to read and interpret tabulations; a set of two-way tables of NRS items crossed with five banner variables; and in a technical appendix the survey instrument used in the summer of 1986. Separate tabulation volumes were produced for each of the three Army components: the regular active Army (RA); the U.S. Army Reserve (USAR); and the Army National Guard (ARNG). Tabulations reflect data gathered during the summer administration of the survey. The crossing variables used in each tabulation volume include demographic and service-related characteristics that vary across components. Other reports in this series provide more extensive documentation of the

background and approach to the 1986 NRS administration. Other reports are also available for the 1982, 1983, 1984 (summer and winter), and 1985 survey administrations.

Benedict, M.E., Elig, T.W. & LaBatte, J.A. (1987). The 1986 ARI Survey of U.S. Army Recruits: Tabular Descriptions of NPS (Active) Army Accessions. Volume 1. Eden Prairie, MN: Data Recognition Corporation.

This is one of eight reports produced to document the 1986 Army Research Institute Survey of U.S. Army Recruits, also known as the New Recruit Survey (NRS). This is volume 1 of a two-volume set of crosstables describing the attitudes, demographics, and service-related characteristics of non-prior-service Army recruits entering active duty during the summer of 1986. Tabulation volumes contain an introduction to the 1986 NRS reports series and project overview; an explanation of how to read and interpret tabulations; a set of two-way tables of NRS items crossed with five banner variables; and in a technical appendix the survey instrument used in the summer of 1986. Separate tabulation volumes were produced for each of the three Army components: the regular active Army (RA); the U.S. Army Reserve (USAR); and the Army National Guard (ARNG). Tabulations reflect data gathered during the summer administration of the survey. The crossing variables used in each tabulation volume include demographic and service-related characteristics that vary across components. Other reports in this series provide more extensive documentation of the background and approach to the 1986 NRS administration. Other reports are also available for the 1982, 1983, 1984 (summer and winter), and 1985 survey administration.

Benedict, M.E., Elig, T.W. & LaBatte, J.A. (1987). The 1986 ARI Survey of U.S. Army Recruits: Tabular Descriptions of NPS National Guard Accessions. Volume 1. Eden Prairie, MN: Data Recognition Corporation.

This is one of eight reports produced to document the 1986 Army Research Institute Survey of U.S. Army Recruits, also known as the New Recruit Survey (NRS). This is a volume of crosstables describing the attitudes, demographics, and service-related characteristics of non-prior-service National Guard recruits entering during the summer of 1986. This tabulation volume contains an introduction to the 1986 NRS reports series and project overview; an explanation of how to read and interpret tabulations; a set of two-way tables of NRS items crossed with five banner variables; and a technical appendix of the Army National Guard survey instrument used in the summer of 1986. Separate tabulation volumes were produced for each of the three Army components: the regular active Army (RA); the U.S. Army Reserve (USAR); and the Army National Guard (ARNG). Tabulations reflect data gathered during the summer administration of the



survey. The crossing variables used in each tabulation volume include demographic and service-related characteristics that vary across components. Other reports in this series provide more extensive documentation of the background and approach to the 1986 NRS administration. Other reports are also available for the 1982, 1983, 1984 (summer and winter), and 1985 survey administrations.

Elig, T.W. & Nogami, G.Y. (1986). The 1984 ARI Survey of Army Recruits: Codebook for October 84/February 85 USAR (U.S. Army Reserve) and ARNG (Army National Guard) Survey Respondents. Rockville, MD: Westat, Inc.

The ARI Survey of Army Recruits (more commonly known as the New Recruits Survey NRS) is conducted to obtain information on the characteristics, enlistment motivations, attitudes, and knowledge of recruits at the point of their initial entry into the U.S. Army. The eleven reports in the 1984 series include user's manuals, codebooks (which focus on data file documentation, including special variables, and use of the survey data available from respondents), and tables of survey results.

Elig, T. W., Hertzbach, A. & Johnson, R.M. (1984). The 1983 ARI Survey of Army Recruits: Tabular Description of 1983 (Active) Army Accessions. Volume 1. Alexandria, VA: U.S. Army Research Institute.

This report and a companion Volume 1 (RP 84-10) serve as an overview of the non prior service (NPS) regular (Active) Army results from the 1983 ARI Survey of Army Recruits. Similar reports are available for 1982 (RP 84-01 and RP 84-02, February 1984). This report presents the responses to each question in the surveys by gender, education, ethnic group, AFQT, and high school senior and graduate markets. Volume 2 reports breakdowns of each question by age at contracting, geographic region, rural/urban background, term of enlistment, and enlistment incentive (Army College Fund, Cash Bonus, Both, Neither). These tables are intended to provide Army manpower policy makers and researchers with recent information on who is enlisting in the Army as well as why they state that they are enlisting. It is intended that these reports will stimulate interest in detailed analyses of specific policy concerns.

Elig, T. W., Hertzbach, A. & Johnson, R.M. (1984). The 1983 ARI Survey of Army Recruits: Tabular Description of 1983 (Active) Army Accessions. Volume 2. Alexandria, VA: U.S. Army Research Institute.

This report and a companion Volume 1 (RP 84-09) serve as an overview of the non prior service (NPS) regular (Active) Army results from the 1983 ARI Survey of Army Recruits. Similar reports are available for 1982 (RP 84-01 and RP 84-02, February

1984). Volume 1 presents the responses to each question in the surveys by gender, education, ethnic group, AFQT, and high school senior and graduate markets. This volume reports breakdowns of each question by age at contracting, geographic region, rural/urban background, term of enlistment, and enlistment incentive (Army College Fund, Cash Bonus, Both, Neither). These tables are intended to provide Army manpower policy makers and researchers with recent information on who is enlisting in the Army as well as why they state that they are enlisting. It is intended that these reports will stimulate interest in detailed analyses of specific policy concerns.

Elig, T.W., Hertzbach, A. & Johnson, R.M. (1984). The 1982 DA Survey of Personnel Entering the Army: Tabular Description of 1982 (Active) Army Accessions. Volume 1 (Report No. ARI-RP-84-01). Alexandria, VA: U.S. Army Research Institute.

This report and a companion Volume 2 (RP 84-02) serve as an overview of the non prior service (NPS) regular (Active) Army results from the 1982 DA Survey of Personnel Entering the Army. This report presents the responses to each question in the surveys by gender, education, ethnic group, AFQT, and 1982 high school education status. Volume 2 reports breakdowns of each question by age at contracting, USAREC Regions, rural/urban background, term of enlistment, and enlistment incentive (Army College Fund, Cash Bonus, Both, Neither). These tables are intended to provide Army Manpower policy makers and researchers with recent information on who is enlisting in the Army as well as why they state that they are enlisting. It is intended that these reports will stimulate interest in detailed analyses of specific policy concerns.

Elig, T.W., Hertzbach, A. & Johnson, R.M. (1984). The 1982 DA Survey of Personnel Entering the Army: Tabular Description of 1982 (Active) Army Accessions. Volume 2 (Report No. ARI-RP-84-02). Alexandria, VA: U.S. Army Research Institute.

This report and a companion Volume 1 (RP 84-01) serve as an overview of the non prior service (NPS) regular (Active) Army results from the 1982 DA Survey of Personnel Entering the Army. Volume 1 presents the responses to each question in the surveys by gender, education, ethnic group, AFQT, and 1982 high school education status. This volume reports breakdowns of each question by age at contracting, USAREC Regions, rural/urban background, term of enlistment, and enlistment incentive (Army College Fund, Cash Bonus, Both, Neither). These tables are intended to provide Army manpower policy makers and researchers with recent information on who is enlisting in the Army as well as why they state that they are enlisting. It is intended that these reports will stimulate interest in detailed analyses of specific policy concerns.



## Youth Attitude Tracking Study (YATS)

Bray, R.M., Fountain, D.L., Helms, R.F. & York, B.J. (1991). Information Seeking about the Military by Young Men: Findings from the 1989 Youth Attitude Tracking Study II. Research Triangle Park, NC: Research Triangle Institute.

This report examines the information-seeking activities of 16- to 21-year old men regarding military service. Data were drawn from the 1989 Youth Attitude Tracking Study II (YATS II), a 30-minute computer-assisted telephone interview (CATI) of over 11,000 16- to 24-year-old American men and women, representing a population of nearly 14.8 million. Of the 11,000 surveyed, approximately 6,000 were men aged 16 to 21. The principal issues being considered in this report are young men's likelihood of enlistment (propensity) in any of the Department of Defense (DoD) active Military Services (Army, Navy, Air Force, Marine Corps) and their specific efforts to acquire information about serving in the Armed Forces.

Bray, R.M., Whelan, J.L., & Cavanaugh, E. (1986). Youth Attitude Tracking Study II Wave 16 -- Fall 1985. Supplementary Tabulations (Report No. RTI/3365/05-01FR). Research Triangle Park, NC: Research Triangle Institute.

Effective targeting of recruiting efforts requires that the Department of Defense understands the backgrounds, attitudes and motivations of young men and women, and their intentions to serve in the military. In the past, two survey series provided data on these issues: the Youth Attitude Tracking Study (YATS) and the Reserve Component Attitude Study (RCAS). The Youth Attitude Tracking Study II (YATS II) is a reconfigured survey begun in 1983 that merges the former YATS and the non-prior service portion of RCAS into a single study. This volume presents supplementary tabulations for the 1985 YATS II. These tabulations show the distributions of responses to the questions asked during the 30-minute telephone interview for the study. Analyses are based on interviews from 5,478 young males, 1,180 older males, and 3,301 females. Data tables for the 1985 YATS II survey present two types of information: Marginal item distributions for each market group, and Cross tabulations of items with the key analysis variable of 'composite propensity to serve in the military.'

Bray, R.M., McCalla, M.E., Immerman, F.W., Guess, L.L., & Duntelman, G.H. (1985). Youth Attitude Tracking Study II, Wave 15 Fall 1984 (Report No. RTI/2927/05-02FR). Research Triangle Park, NC: Research Triangle Institute.

This report documents part of the Joint Market Research Program sponsored by the Office of the Assistant Secretary of Defense (Force Management and Personnel). The Youth Attitude

Tracking Study II (YATS II) is a key component of the Joint Market Research Program which contributes to policy formation and the development of recruiting marketing strategies. The Military Services provide comments and guidance through the Joint Market Analysis and Research Committee (JMARC). YATS II provides annual data about the propensity of young men and women to enlist in the active military and in the Reserve Component. It also measures awareness of military advertising, contact with recruiters, and knowledge of the financial incentives for enlisting. The current report consists of 10 chapters describing the methodology for and results of the 1984 YATS II survey. Chapters 1-3 discuss the background and methodology for the study. Chapters 4-7 present descriptive results for the three market groups--young males, older males, and females. Enlistment propensity provides the organizing theme for these analyses and presentation of results. Chapters 8-9 present a segmentation analysis in which Recruiting Priority Groups (RPGs) are defined and examined for young males and females. Chapter 10 presents multivariate analyses having implications for ways to target the market. The remaining sections of this summary highlight the methodology of the study and the key results.

Bray, R.M. (1984). Youth Attitude Tracking Study II, Supplementary Data Collected in the Fall, 1983 (Report No. RTI/2622/05-01FR). Research Triangle Park, NC: Research Triangle Institute.

The reconfigured Youth Attitude Tracking Study II (YATS II) merges the former Youth Attitude Tracking Study (YATS) and the no-prior-service portion of the Reserve Component Attitude Study (RCAS) into a single study design. The purpose of the study is to assess the backgrounds, attitudes, motivations, and intentions to serve in the military of young men and women. In this volume are supplementary tabulations that show the distributions of responses to most of the questions asked during the 30-minute telephone interview for YATS II.

Bray, R.M., Fountain, D.L., Helms, R.F., & York, B.J. (1991). Information Seeking about the Military by Young Men: Findings from the 1989 Youth Attitude Tracking Study II. Research Triangle Park, NC: Research Triangle Institute.

This report examines the information-seeking activities of 16- to 21-year old men regarding military service. Data were drawn from the 1989 Youth Attitude Tracking Study II (YATS II), a 30-minute computer-assisted telephone interview (CATI) of over 11,000 16- to 24-year-old American men and women, representing a population of nearly 14.8 million. Of the 11,000 surveyed, approximately 6,000 were men aged 16 to 21. The principal issues being considered in this report are young men's likelihood of enlistment (propensity) in any of the Department of Defense (DoD) active Military Services (Army, Navy, Air Force, Marine Corps)

and their specific efforts to acquire information about serving in the Armed Forces.

Bray, R.M., Curtin, T.R., York, B.J., Williams, R.L. & Helms, R.F. (1990). Patterns and Trends in propensity to Enlist in the Military: Findings from the 1989 Youth Attitude Tracking Study II. Research Triangle Park, NC: Research Triangle Institute.

This report examined the expressed propensity of young people to enlist in the active Military Services and Reserve Components of the Armed Forces. Data were drawn primarily from the 1989 (Youth Attitude Tracking Study (YATS), a 30-minute, computer-assisted telephone interview that is conducted each fall. Over 11,000 16 to 24-year old American men and women, representing a population of nearly 4.8 million, were interviewed. The aptitude by race/ethnicity interaction indicated higher propensity among those with lower aptitude and a pattern of declining propensity as aptitude increased. The rate of decline was greater, however, for Blacks than for whites or Hispanics. Thus, Blacks with higher aptitude were less likely to be favorable toward military service than those from other race/ethnicity groups. Further examination of the effects of aptitude indicated little variation with age but substantial variation with race/ethnicity. For both males and females, whites were over two times more likely to score in the higher aptitude range than were Blacks and over one and a half times more likely than were Hispanics.

Bray, R.M., Jordan, B. K. & Bailey, S.L. (1989). Military Advertising Exposure and Service Images: Findings from the 1988 Youth Attitude Tracking Study II. Research Triangle Park, NC: Research Triangle Institute.

The 1988 Youth Attitude Tracking Study (YATS) was designed to examine the propensity of potential recruits to enlist in the military, changes in propensity since 1976, and attitudes and motivations of potential recruits, including differences by Armed Forces Qualification Test (AFQT) scores. Computer assisted telephone interviews were conducted from July to November of 1988 to collect data on 10,985 respondents. The respondents include four market groups: 5,486 males ages 16-21 (young males)' 3,271 females ages 16-21 (young females); 1,130 males ages 22-24 (older males); and 1,098 females ages 22-24 (older females). This is one of a series of reports from the 1988 YATS. It focuses on expressed awareness of military advertising in the past 12 months, accuracy of matching military slogans used in advertising with the correct service, receipt of unsolicited recruiting literature, images respondents have of the active Services, the number and types of events respondents attended in the past 12 months (roughly 10/87 to 10/88) which featured the military, and the impact of attendance at such events on the probability of

enlistment. Large majorities of respondents in all market groups (60 to 89 percent) reported awareness of military advertising for the four active Services in the past 12 months.

Citizen, G.D. (1985). A New Device for Estimating Local Area Enlistment Market Potential. Naval Postgraduate School, Monterey, CA.

This thesis investigates an alternative method for estimating enlistment market potential. The method proposed is based upon survey respondents stated intentions to join the military obtained from the Youth Attitude Tracking Study (YATS). Local area estimates of application potential are determined for general military service and for each of the four larger branches, i.e., Army, Navy, Air Force and Marine Corps. The main conclusions of the study are: a) Reasonable estimates of enlistment market potential can be obtained via a method which is relatively independent of past accessions, and b) Separate estimates of local area market potential should be determined for racial and age subgroups.

Coleman, F.D., & Trautwein, M.W. (1983). The 1982 Youth Attitude Tracking Study (YATS) An Analysis of Results and Implications for Army Recruiting (Report No. USAREC-RM-83-2). Fort Sheridan, IL: Army Recruiting Command.

This represents the first detailed study of YATS data and a documentation of comparison of historical trends in youth attitudes. It examines reasons for recent increases in propensity for joining the Army and analyzes the propensity and quality of differences between the five region recruiting commands. Over the last 2 years, the percentage of high quality respondents has decreased while the percentage of low quality respondents has increased--significantly in both cases. Traditionally, most high quality respondents have been found in the Northeast Recruiting Region, followed by the Midwest, Western, Southwest and Southeast Regions. Medium quality respondents have been most numerous in the Southeast Region with the fewest in the Northeast and Midwest. The Southeast has had the greatest percentage of low quality respondents. The increase in pro-military index of prime market respondents indicates that the Army as a Service option has become more attractive. The attractiveness of military service, especially of the Army, as a stable and lasting source of employment is highly correlated to economic recession and lack of civilian job prospects.

Crosbie, M.K. (1989). Positive propensity and Navy Enlistment. Unpublished master's thesis, Naval Postgraduate School, Monterey, CA.

This thesis examines the process used to estimate the military enlistment behavior of young men, and seeks to develop measures

to improve the process. Enlistment intention is quantified through the construction of two separate propensity measures, the percent positive propensity (PPP) and the Navy propensity index (NPI). These measures are included as explanatory variables in Navy Recruiting Command's current enlistment prediction model, and this model is in turn regressed upon net enlistment contract data. The study compares model performance and forecasting accuracy with and without each of the propensity variables, and examines positive enlistment propensity itself at the regional and local levels. The main conclusions of the study are: (1) Weighted propensity should be the value of choice when using YATS II data to estimate propensity measures. (2) Net contract data should be the preferred form for use in forecasting enlistments. (3) There has been a definite decrease in nationwide positive propensity during the period 1983-1987. (4) There is significant regional variation in the predictive accuracy of the current Navy enlistment model. (5) Residual analysis of positive propensity indicates that much of the variation in propensity is explained by other significant explanatory variables especially local unemployment. The degree to which other factors explain propensity reduces its effectiveness as an explanatory variable in enlistment forecasting models.

Dicks, D.A. (1988). A Longitudinal Analysis of Intentions to Enlist: Impact on Subsequent Enlistments and Performance of U.S. Marines. Unpublished master's thesis. Naval Postgraduate School, Monterey, CA.

This study examines the relationship between the surveyed intentions of young men to join the military and their actual enlistment behavior. Of specific concern, is how knowledge of this relationship might benefit the United States Marine Corps in achieving cost-effective management of recruiting resources. A review of selected literature examines the use of an intentions variable in manpower forecasting models as well as some of the major research efforts involving surveyed intentions. The analysis uses a longitudinal data base, created by merging responses from the 1976-83 Youth Attitude Tracking Study (YATS) with Defense Manpower Data Center (DMDC) cohort files, to examine the connection between an individual's self-stated propensity to enlist and his subsequent behavior. The analysis also attempts to describe selected characteristics of individuals who joined the military -- including demographic variables, quality indicators, and measures of performance -- on the basis of their YATS response. There was no conclusive evidence of major differences in the characteristics of enlistees who were initially positive or negative toward joining the military. However, the results of the study do suggest that different combinations of intentions and demographic characteristics may lead to different patterns of enlistment behavior.

Fountain, D.L., Bray, R.M., Sotolongo, D.M. & Waitman, M.A. (1990). Media Use Patterns of Young Men: Findings from the Youth Attitude Tracking Study II. Alexandria, VA: Defense Manpower Data Center.

This report describes media use patterns of young men for television, radio, newspapers, and magazines. Data were drawn from the 1989 Youth Attitude Tracking Study/Alternate Questionnaire Study (YATS/AQS), a 20-minute computer-assisted telephone interview (CATI) with a probability-based sample of 476 men aged 16 to 21. Correlations were computed to examine the relationship of advertising awareness and media use to assess if higher levels of media use were reflected in greater advertising awareness. Results showed small correlations (.15 or less), indicating weak relationships between the awareness of advertising and the use of media. Data on recall messages, however, showed high awareness of military advertising for television (81%) and magazines (53%), but lower awareness for radio (32%) and newspapers (19%). These same patterns held for those with enlistment interest and those higher grades. These data suggest that awareness of military advertising may be higher grades. These suggest that awareness of military advertising may be high and that, part of the advertising message about the military is reaching your men.

Groeneman, S. (1983). Youth Attitude Tracking Study. Fall 1982. (Report No. 6474-VOL-2). Chicago, IL: Market Facts Inc. Public Sector Research Corporation.

In 1982, YATS surveyed 5940 young men and 1200 young women. The 1982 YATS revealed the following significant findings: (1) Increased positive propensity among certain population subgroups accounted for most of the overall increase in the 1982 composite measure. The changes were not uniform across different segments of the target market. (2) Positive propensity males exhibited greater differentiation in 1982 in their Service preferences. Youth were simultaneously positively inclined toward a smaller number of Services than in previous surveys. (3) Starting pay continued to be underestimated by target market youth. Informing them of actual starting pay did not have a net favorable effect of increasing aggregate propensity. (4) Unaided awareness of service advertising and total aided plus unaided awareness of advertising increased for the active duty services. (5) There were no statistically significant 1981-1982 changes in any of the active duty service enlistment propensities, or in the composite measure. Fewer than one in seven young women expressed positive propensities toward any of the four services in 1982. and (6) Awareness of the Services' recruitment advertising increased among females.



Groeneman, S. (1982). Youth Attitude Tracking Study. Fall 1981.  
(Report No. 6474-VOL-1). Chicago, IL: Market Facts Inc.  
Public Sector Research Corporation.

Beginning with the Fall 1980 survey, the sample size was doubled to include females. Subsequent surveys have been conducted annually and include cross-sectional samples of both sexes. In YATS 1981, 5201 males and 5213 females were surveyed. There was no significant change in overall positive propensity for either males or females. The percent of youth interviewed in 1981 who estimated the starting pay was smaller than in 1980 and the starting pay was severely underestimated. Messages stressing 'opportunities' and teaching or learning a trade dominated both male and female recall of advertising content.

Halek, R. J. (1984). The 1982 Youth Attitude Tracking Study (YATS): A Comparative Analysis of the 'Negative' Male Respondents (YATS NEG) (Report No. USAREC-RM-84-4). Fort Sheridan, IL: Army Recruiting Command.

The analysis is concerned with 1982 Youth Attitude Tracking Study (YATS) respondents, male only. It examines responses to questions of military service propensity to determine the differences among the propensity groups. This document represents an effort by Headquarters United States Army Recruiting Command (HQ USAREC) and N W Ayer, USAREC's advertising agency, to determine the issues that concern individuals that are negatively inclined to join the service in general and the Army specifically.

Heisler, J.T. (1980). Youth Attitude Tracking Study. Volume 1. Spring 1980 (Report No. 6323). Chicago, IL: Market Facts Inc. Public Sector Research Corporation.

The 1980 YATS conducted 5217 interviews with young males in the Spring. In Fall 1980, YATS included females for the first time, interviewing 5111 males and 5252 females in that wave. The Spring wave marked a significant reversal of the downward trend in propensity observed across the first eight waves of the study. The Spring 1980 data supported the hypothesis of an inverse relationship between propensity and employment and job market perceptions. It also revealed a significant positive shift in the collective perceptions and attitudes of 16 to 21 year old males towards a draft registration. Again in the Fall 1980 wave an interest in military service appears to be linked to young peoples' reported employment and job market perception.

Heisler, J.T. (1979). Youth Attitude Tracking Study. Volume 2. Fall 1979 (Report No. 6323). Chicago, IL: Market Facts Inc. Public Sector Research Corporation.

In the 1979 YATS, 5,203 males were surveyed in the Spring and 5187 in the Fall. The study revealed the first significant drop in propensity to join each of the services in two years. Awareness of recruitment advertising increased significantly from Spring 1978 and the Joint Services Campaign awareness also increased significantly from Fall 1978. In addition, the Spring 1979 wave included a question on military draft registration for all 18 years olds. The resulting data suggested no clear consensus among 16 to 21 year olds as to the necessity of draft registration. In the Fall 1979 wave the downturn in propensity observed in the Spring leveled-off. It was hypothesized that real and perceived improvements in the youth job market may be contributing to declining propensity to enlist in the services and actual market place behavior. Data collected supports this hypothesis.

Heisler, J.T. (1978). Youth Attitude Tracking Study. Volume 1. Spring 1978 (Report No. J895). Chicago, IL: Market Facts Inc. Public Sector Research Corporation.

The 1978 YATS surveys interviewed 1066 males in the Spring and 5199 in the Fall. The Spring study indicated that the downward trend in propensity to enlist had leveled off and that the most important job attributes of the Services continued to be those identified in 1977. With the completion of the Fall 1978 wave of the tracking study, three years of attitudinal and behavioral data were accumulated. Propensity dropped significantly during the three year period with improvements in the youth job market possibly contributing to the downward trend. The predominant motivating factor for joining the service was determined to be in order to improve one's chance for later success in the civilian job market. The level of awareness of starting pay and enlistment bonuses was identified as a possible recruiting and advertising opportunity.

Heisler, J.T. (1977). Youth Attitude Tracking Study. Fall 1977. Supplement. Conjoint Analysis of Values of Reserve Component Attributes (Report No. 9276). Chicago, IL: Market Facts Inc. Public Sector Research Corporation.

A comprehensive study was undertaken to indicate to the Reserve Components what actions, in the form of product modification and/or product communications, are likely to have the greatest impact on increasing (1) accessions among various demographic types of NPS civilian males and (2) likelihood of re-enlistment among current guardsmen and reservists. The overall objective of the study is to examine in detail motivational factors in enlistment and retention as a basis for developing



policy recommendations for efforts aimed at enhancing Reserve Component accession and retention. The first objective is to measure young men's propensity to serve (or re-enlist) in the Reserve Components. The second objective is to determine current perceptions of the Reserve Components in terms of 12 key attributes. A third objective is to determine the relative importance of the 12 key job attributes that may provide the basis for influencing young men to join and remain in the Reserve Components. A simulation model is provided that indicates what configurations of job characteristics, benefits and incentives will enhance accessions and re-enlistment intentions among various target groups (e.g., high school graduates, etc.).

Heisler, J.T. (1977). Youth Attitude Tracking Study. Volume 1. Spring 1977 (Report No. H390-Vol-1). Chicago, IL: Market Facts Inc. Public Sector Research Corporation.

YATS 1977 conducted 5520 interviews in the Spring and 5280 in the Fall. The Spring report concluded that a greater proportion of young men between the ages of 16 and 21 have graduated high school and are now working full-time in civilian occupations. It showed two job attributes that young men perceived as attainable in the service: 'teaches you a valuable trade or skill' and 'a career you can be proud of.' perceived unattainable job attributes were: 'good benefits for you and your family,' 'job you want,' and 'opportunity to better your life.' Self-reported school enrollment in general dropped according to this study as did self-reported academic quality. In addition, more than 1/2 of the positive propensity group said they would be more likely to enlist if starting pay were increased by \$50.00 a month. Only about one sixth of the negative propensity group said they would be more likely to enlist. The Fall survey found that positive propensity for all four services declined from the previous year.

Heisler, J.T. (1976). Youth Attitude Tracking Study. Volume 1. Spring 1976 (Report No. 9221-Vol-1). Chicago, IL: Market Facts Inc. Public Sector Research Corporation.

YATS 1976 surveyed 3008 men in the Spring and 5475 in the Fall. The Spring YATS added a series of questions dealing with the benefits of the GI Bill to the survey. The proportion of respondents linking the Bill with educational benefits is above average among nineteen year olds and high quality prospects. The association is below average among low quality prospects. The rank order of the Services expressed by propensity levels is: Air Force, Navy, Army, Marine Corps. The Fall 1976 report indicates a decline since Fall 1975 in the propensity of young men to join.

Heisler, J.T. (1976). Youth Attitude Tracking Study. Volume 2. Fall 1975 (Report No. 9221). Chicago, IL: Market Facts Inc. Public Sector Research Corporation.

The Youth Attitude Tracking Study (YATS) is a telephone interview survey which respondents are selected by random digit dialing. It is a component of the Joint Market Research Program, contributing to recruiting policy formation and the development of recruiting strategies. Initiated in 1975, it tracks the self-reported attitudes, perceptions, and pre-enlistment behavior of non-military 16 to 21 year olds with respect to future service in the military for both active and reserve duty. Respondents are categorized into two groups: those with a negative propensity to enlist in the active military and those with a positive propensity. Negative propensity individuals stated that they would definitely or probably not enlist or did not indicate. Positive propensity individuals said they would definitely or probably enlist. YATS includes advertising awareness, contact with recruiters, and knowledge of the financial incentives for enlisting. YATS also provides time series data about the propensity of young men and women to enlist in the military. Through the Spring of 1980, males only were tracked on a semi-annual basis. Beginning with the Fall 1980 survey, the sample size was doubled to include females. Subsequent surveys, conducted annually, include cross-sectional samples of both sexes. The survey indicates that each of the four Military Services was perceived differently by the country's youth. Air Force was most frequently cited as the service which offers self-improvement opportunities, a challenging job, a proud career, and higher pay than other Services. The Army is recognized as helping to get a college education and providing better family benefits.

Heisler, J. T. (1979). Youth Attitude Tracking Study. Volume 1. Spring 1979 (Report No. 9344). Washington, DC: Market Facts Inc, Public Sector Research Group.

In the 1979 YATS, 5,203 males were surveyed in the Spring and 5187 in the Fall. The study revealed the first significant drop in propensity to join each of the services in two years. Awareness of recruitment advertising increased significantly from Spring 1978 and the Joint Services campaign awareness also increased significantly from Fall 1978. In addition, the Spring 1979 wave included a question on military draft registration for all 18 year olds. The resulting data suggested no clear consensus among 16 to 21 year olds as to the necessity of draft registration. It was hypothesized that real and perceived improvements in the youth job market may be contributing to declining propensity to enlist in the services and actual market place behavior. Data collected supports this hypothesis. This is the Spring study.

Human Resources Research Organization. (1971). Attitudes of Youth Toward Military Service: Results of a National Survey Conducted in May 1971. Alexandria, VA.

A national survey of civilian youth, conducted in May 1971, had as objectives, determination of the following items of information about American youth: (1) Their potential for voluntary enlistment in the Regular and Reserve forces in a draft-free environment; (2) their factual knowledge and perceptions of the Regular and Reserve forces; (3) their reactions to enlistment incentives, benefits, compensation, and options or conditions of Service; and (4) their enlistment propensity in terms of demographic characteristics, socio-economic background and educational/occupational status, achievements, and interests. This report provides information about the motivations and predispositions of contemporary American civilian youth. Results derive from a nationwide sample of young male civilians, ages 16 through 21, who expressed their opinions on these topics through the mechanism of personal interviews. This report also presents their reactions to current and potential alternative programs for providing manpower for the military services.

Jorgensen, J. F., & Ross, W. R. (1984). Status Report: Economic Conditions and Their Effect on the Volunteer Army. Carlisle Barracks, PA: Army War College.

This study addresses the successes the Army has experienced for the past three or four years in recruiting quality soldiers in the quantity needed. It examines the propensity youth has toward enlisting into the Army, as reflected by Youth Attitude Surveys and by interviews conducted by the study group members. The study analyzes those factors which the survey and interviews reveal as most important incentives in influencing enlistments into the Army, and the advertising campaigns which make youth aware of those incentives. A critical look is taken at the US Army Recruiting Command and the reorganization it has undergone in recent years, and the results of that reorganization. All of the above is considered in view of the state of the economy, particularly unemployment, and how it has affected, or if it has affected, enlistments.

Lawrence, M.T. & Bridges, S.T. (1985). Youth Attitude Tracking Study: Historical Evolution and Characteristics (Report No. DMDC/MRB/TR-12). Arlington, VA: Defense Manpower Data Center, Market Research Branch.

This technical note summarizes for the first time the details of the evolution of the Youth Attitude Tracking Study (YATS) into its present form. It also discusses and presents comparative propensity data for all the administrations of YATS. YATS has become the recognized principal source of data regarding

the propensity of the military-age population for joining the military. Changes made in the Fall 1983 survey merited the redesignation of the survey as YATS II. Distinguishing YATS II from its predecessor are expanded market coverage and increased methodological and statistical rigor. The Defense Manpower Data Center (DMDC) has retraced the history, by necessity, as part of an effort to ensure the comparability of data in adjacent data collections. The purpose of this paper is to summarize in one place the details of the evolution of YATS into its present form. The last section of this paper discusses and presents comparative propensity data for all the administrations of YATS in a manner that adjusts and compensates for the conversion of YATS into YATS II, as well as previous changes. The changes have been made due to changing requirements of both the policy and operational recruiting communities in the Office of the Secretary of Defense and the Services. Other changes are a result of budgetary constraints.

Lerro, P., Laurence, J.H. & Ramsberger, P.F. (1993). Media Habits of American Youth: Findings From the 1990 Youth Attitude Tracking Study. Alexandria, VA: HUMMRO International, Inc.

This report presents data from the 1990 YATS concerning the media habits of youth -- how often, when, and to what types of media (television, radio, newspapers, and magazines) youth are exposed. The primary analysis was aimed at examining media habits of those youth most desired by the Services -- male high school graduates who score at or above 50 on the Armed Forces Qualification Test (AFQT). The Department of Defense (DoD) and the Services refer to this group as 'high-quality' males. The profiles of media use reported by high-quality males were compared with those of other demographic groups

Lerro, P., Laurence, J.H., & Ramsberger, P.F. (1993). Influences on the Military Enlistment Decision-Making Process: Findings from the 1991 Youth Attitude Tracking Study. Alexandria, VA: Human Resources Research Organization.

This report examines data from the 1991 Youth Attitude Tracking Study (YATS) survey concerning the influence of perceptions, people, and policies on the enlistment decision making process. The data examined include: stated reasons for and against enlisting; perceptions of the military in general military life, and the individual Services: the impact of current events on stated likelihood of enlisting; the influence of others with whom military service was discussed; knowledge of others currently serving, and; the projected influence of enlistment options and incentives. The goal is to provide a clearer picture of how youth perceive the military, and what factors may influence them towards or away from enlisting. YATS is an annual survey of approximately 10,000 men and women, aged 16-24.

Respondents are identified through random selection of telephone numbers, and computer-assisted telephone interviews (CATIs) are used to collect the information. CATI presents questions on a computer screen to an interviewer to read over the telephone, and interviewers type responses into a database as they are given. This technology eliminates inappropriate questions based on a respondent's earlier answers and identifies inconsistent responses during the interview. A key measure in YATS is self-reported enlistment propensity.

Lerro, P., Laurence, J.H. & Ramsberger, P.F. (1992). Military Advertising Awareness and Effectiveness: Findings from the 1990 Youth Attitude Tracking Study. Alexandria, VA: Human Resources Research Organization.

This report examines data from the 1990 Youth Attitude Tracking Study (YATS) survey concerning youth awareness of military advertising. It was designed to help answer the question, How effective is advertising? Data Regarding Service advertising awareness levels, slogan recognition, reactions to receipt of Service literature, and actions taken by young people to seek information about the military were analyzed in terms of pertinent demographics, advertising exposure, and military perceptions. The demographics included gender, age, school status, estimated quality, composite active propensity, race-ethnicity, geographic region, and employment status. YATS is an annual survey of approximately 10,000 men and women, aged 16-24. Respondents are identified through random selection of telephone numbers, and computer-assisted telephone interviews (CATIs) are used to collect information. CATI presents questions on a computer screen to the interviewer to read over the telephone, and interviewers type responses into a database as the interview is being conducted. This technology eliminates inappropriate questions based on a respondent's earlier answers and identifies inconsistent responses during the interview. A key measure in YATS is self-reported enlistment propensity. The measure is based on a series of questions asking the likelihood the respondent will be in the Army, Navy, Air Force, or Marine Corps in the next few years. Respondents indicating they will 'definitely' or 'probably' be on active duty in one of these Services are said to have positive propensity. Others are said to have shown negative propensity.

Market Facts Inc. (1980). Youth Attitude Tracking Study; Spring 1980. Washington, DC.

This is the tenth of a series of bi-annual youth surveys to gauge youth propensity to enlist, perceptions of military service, sources of information about the military and youth goals and aspirations.

Market Facts Inc. (1979). Youth Attitude Tracking Study; Spring 1979. Chicago, IL.

This is the seventh of a series of bi-annual youth surveys to gauge youth propensity to enlist, perceptions of military service, sources of information about the military and youth goals and aspirations.

Market Facts Inc, Washington DC Public Sector Research Group. (1979). Youth Attitude Tracking Study; Fall 1978. Washington, DC.

This is the seventh of a series of bi-annual youth surveys to gauge youth propensity to enlist, perceptions of military service, sources of information about the military and youth goals and aspirations. (Author)

Market Facts Inc. (1978). Youth Attitude Tracking Study; Fall 1977. Chicago, IL.

This is the fifth of a series of bi-annual youth surveys to gauge youth propensity to enlist, perceptions of military service, sources of information about the military and youth goals and aspirations.

Market Facts Inc. (1977). Youth Attitude Tracking Study; Spring 1977. Chicago, IL.

This is the fourth of a series of bi-annual youth surveys to gauge youth propensity to enlist, perceptions of military service, sources of information about the military and youth goals and aspirations.

Market Facts Inc. (1976). Youth Attitude Tracking Study; Fall 1976. Chicago, IL.

This is the third of a series of bi-annual youth surveys to gauge youth propensity to enlist, perceptions of military service, sources of information about the military and youth goals and aspirations.

Market Facts Inc. (1976). Youth Attitude Tracking Study; Spring 1976. Chicago, IL.

This is the second of a series of bi-annual youth surveys to gauge youth propensity to enlist, perceptions of military service, sources of information about the military and youth goals and aspirations.

Market Facts Inc. (1976). Youth Attitude Tracking Study; Fall 1975. Chicago, IL.

This is the first of a series of bi-annual youth surveys to gauge youth propensity to enlist, perceptions of military service, sources of information about the military and youth goals and aspirations.

Marsden, M.E. (1983). Youth Attitude Tracking Study II, Fall 1983 (Report No. RTI/2622/05-01FR). Research Triangle Park, NC: Research Triangle Institute.

Military recruiters and leaders face the continuing challenge of maintaining mandated manpower strengths of the Armed Forces. They seek high quality recruits who will be successful in adapting to military life, learning the skills of an occupational specialty, and performing their jobs. To meet this objective, the Department of Defense has a continuing need for current information about the backgrounds, attitudes, and motivations of young men and women and their intentions to serve in the military. Information on these issues has been provided by two series of surveys: the Youth Attitude Tracking Study (YATS) which began in 1975, and the Reserve Component Attitude Study (RCAS) which began in 1977. YATS surveys have examined the intentions of youth (16 to 21 years old) to join the active military, whereas RCAS surveys have examined the intentions of youth and young adults (17 to 26 years old) to join the Reserve components. In 1983, YATS and the non-prior service portion of RCAS were reconfigured into a single study design--the Youth Attitude Tracking Study II (YATS II). This report describes the 1983 YATS II survey.

Nieva, V. (1993). Youth Attitude Tracking Study 1991: propensity and Advertising Report (Report No. MDDC-93-006). Rockville, MD: WESTAT Inc.

This report summarizes Fall 1991 enlistment propensity, advertising awareness, and military advertising slogan recognition levels for youth in the United States. The data were drawn from the 1991 Youth Attitude Tracking Study (YATS), sponsored by the Department of Defense. YATS is an ongoing survey that has been conducted annually since 1975. The Fall 1991 YATS survey was conducted between October 5, 1991 and November 27, 1991 and includes responses from approximately 10,000 young men and women between the ages of 16 and 24. Interviews were conducted using the computer assisted telephone interviewing (CATI) methodology and required approximately 30 minutes per interview to complete.



Nieva, V., Wilson, M. Kolmstetter, E. Greenless, J. & Madigan, M. (1993). Youth Attitude Tracking Study 1991: propensity and Advertising Report. Rockville, MD: WESTAT, Inc.

This propensity Report provides a summary of the Fall 1991 Youth Attitude Tracking Study. It includes a discussion of the demographic characteristics of the YATS population, as well as data on enlistment propensity and its sociodemographic correlates for the various active and Reserve components, respectively. This year's report also includes a section on military advertising awareness and slogan recognition among the youth interviewed. Advertising awareness is discussed in relation to selected demographic data, recruiter contacts, and positive and negative propensity. In addition, this year's report includes a section on trends in youth enlistment propensity from 1984 to 1991. Positive enlistment propensity among males is discussed in relation to age, race/ethnicity, school status, and employment circumstance across this eight year period.

Orvis, B.R., Gahart, M.T. & Ludwig, A.K. (1992). Validity and Usefulness of Enlistment Intention Information. Santa Monica, CA: Rand Corporation.

This document reports on the validity and application of enlistment intention information for nonprior-service youth (i.e., individuals who have not previously served in the military). A number of surveys of young people ask respondents to rate their intention to enlist in the military. The resulting information has been used for three major purposes. First, to support recruit marketing analyses, intention information has been used as a means of distinguishing individuals who are more likely to enlist from those less likely to do so. Second, intention information has been used at the aggregate level as a barometer of enlistment rates. Third, to provide policy guidance, intention information has been used to predict changes in military enlistment and reenlistment behavior in response to alternative prospective options. The results discussed in this synthesis document provide strong support for using enlistment intention information in recruiting research. These results demonstrate both the relationship between stated intention and actual enlistment behavior and the potential usefulness of intention data in making enlistment predictions for a variety of purposes. In addition, we found that several factors affect the relationship between intention and enlistment and that the negative intention group is an important source of enlistees.

Ostrove, N.M., Bray, R.M., Guess, L. L., Duntelman, G.H., & Theisen, A.C. (1988). Youth Attitude Tracking Study II Wave 18 -- Fall 1987 (Report No. RTI/3624/26-02FR). Research Triangle Park, NC: Research Triangle Institute.

Effective recruiting for the military requires reliable and timely recruit market data describing the backgrounds and attitudes of young adults and their intentions to serve in the military. This report describes the results of the 1987 Youth Attitude Tracking Study (YATS) II study conducted by the Research Triangle Institute with the assistance of Amrigon Enterprises, Inc. Data for the study consist of responses to a 30-minute, computer assisted telephone interview administered to a nationally representative sample of four recruit market groups: 5,642 young males (aged 16-21); 1,103 older males (aged 22-24); 3,448 young females (aged 16-21); and 1,078 older females (aged 22-24). This report examines enlistment propensity (i.e., the likelihood of young adults to enlist in the military), demographic factors affecting propensity, intentions and attitudes toward the military, enlistment incentives, advertising exposure and Service images, and information-seeking and recruiter contact. These issues are examined as a function of respondent market group, educational status, and predicted Armed Forces Qualification Test (AFQT) category. In addition to the descriptive tabulations, other, more sophisticated analyses that simultaneously examine a set of variables for young males and young females are presented.

Ostrove, N.M., Bray, R.M., Harwood, H.J., Wheelless, S.C., & Cavanaugh, E.R. (1987). Youth Attitude Tracking Study II Wave 17 -- Fall 1986 (Report No. RTR/3624/06-02FR). Research Triangle Park, NC: Research Triangle Institute.

This report describes the results of the 1986 Youth Attitude Tracking Study II conducted by the Research Triangle Institute. This report examines enlistment propensity, economic factors affecting propensity, economic factors affecting propensity, intentions and attitudes towards the military, enlistment incentives, advertising exposure and Service images, and information-seeking and recruiter contact. In addition to the descriptive tabulations, other analyses that simultaneously examine a set of variables for young males and young females are presented. 1985 and 1986 estimates of positive propensity to serve in the active military and Reserve components are presented in a table format. Only three statistically significant changes in propensity levels between 1985 and 1986 were found. Young females showed an increase in propensity toward serving in the Air Force and young males were more likely to express and unaided interest in 1986 compared to 1985.

Rickman, J.L. (1991). Predicting High Quality AFQT with Youth Attitude Tracking Study Data. Naval Postgraduate School, Monterey, CA.

This thesis demonstrates that Youth Attitude Tracking Study (YATS) data can be used to create a synthetic AFQT classification procedure for distinguishing high quality respondents. Unlike previous methods, the procedure does not rely on interest in the military to predict AFQT category. The estimates are based on an analysis of the YATS data matched with the Defense Manpower Data Center cohort data file using a binomial logistic regression model. The market segment analyzed is 17 to 21 year old males who are either high school graduates or prospective graduates. The dependent variable is whether or not a respondent would score above the fiftieth percentile on the Armed Forces Qualification Test. The explanatory variables reflect individual demographic, educational and labor market characteristics at the time of YATS interview. The YATS time frame is restricted to 1983 through 1985 in order to facilitate future bridging of YATS models with models estimated with similar time period data from the National Longitudinal Survey of Youth (NLSY). Additionally, the models may be used to provide estimates of AFQT quality for more recent YATS respondents.

Stone, B., Turner, K., & Wiggins, V. (1993). Population Propensity Measurement Model. Bryan, TX: RRC Inc.

The Propensity Measurement Model Final Report presents analyses of enlistment likelihood and estimates of high and low quality measures using data collected in the Youth Attitude Tracking Study. For the analyses, survey data were matched to military records to develop models for estimating both performance on military qualifying (AFQT) tests and on the probability of future enlistment. Report includes a review of literature on enlistment intentions, a discussion of methodology used and replication strategy for deriving enlistment behavior from survey data, and models for replicating the study from future data collections.

Stone, B.M., Turner, K.L. & Wiggins, V.L. (1992). Population Propensity Model: Final Analysis Report. Unpublished Working Paper. Arlington, VA: Defense Manpower Data Center.

This report seeks to develop a Population Propensity Measurement Model (PPMM) with two primary objectives. (1) To design a model to forecast enlistments which contains attitudinal and behavioral data from Youth Attitude Tracking Survey (YATS) questions which are deemed empirically relevant to the forecasting of enlistment rates combined with external factors and policy malleable data. (2) To design a computer-based model which includes the specifications of the forecast model(s) and all data used in the model development and enlistment projection.

Wilson, M., Nieva, V., Kolmstetter, E., & Greenlees, J. (1993). Youth Attitude Tracking Study 1992: Propensity and Advertising Report. Rockville, MD: Westat, Inc.

This Propensity Report provides a summary of the Fall 1992 Youth Attitude Tracking Study. It includes a discussion of the demographic characteristics of the YATS population, as well as data on enlistment propensity and its sociodemographic correlates for the various active and Reserve Components, respectively. This year's report also includes a section on military advertising awareness and slogan recognition among the youth interviewed. Advertising awareness is discussed in relation to selected demographic data, recruiter contacts, and positive and negative propensity. In addition, this year's report includes a section on trends in youth enlistment propensity from 1984 to 1992. Positive enlistment propensity among males is discussed in relation to age, race/ethnicity, school status, and employment circumstance across this nine-year period.

WESTAT Inc. (1990). Youth Attitude Tracking Study: propensity Report. Rockville, MD.

The Fall 1990 Communications and Enlistment Decision Studies/Youth Attitude Tracking Study III (CEDS/YATS III) was conducted between December 12, 1990 and February 7, 1991. Approximately 10,000 males and females, between 16 and 24 years of age, were included in the survey. The demographic characteristics of respondents exhibited several expected patterns given the findings from previous surveys. For example, school, employment, and material status were all found to be related to respondent age. The questionnaire also asked youth a variety of questions about the likelihood of their serving in the active Military Services (i.e., Army, Navy, Air Force, Marine Corps, and Coast Guard) or Reserve Military Services (i.e., National Guard and Reserves) in the near future. Finally, enlistment likelihood, or propensity, was examined with respect to recent events in the Middle East. The Fall 1990 YATS III provides valuable information about their enlistment propensity especially as global events become increasingly dramatic. Enlisting in the Armed Forces, particularly for younger males, continues to be viewed as a viable career option for nearly one-third of 16-24 year-old males and slightly over one-tenth of 16-24 year-old females.

## Army Experience Survey

Boxwell, D.A., Schmitz, F.H., Spletstoeser, W.R., Schultz, K.J. & Lewy, S. (1986). The 1985 Army Experience Survey: Tabular Descriptions of Enlisted Retirees. Volume 1 (Report No. NASA-A-86417). Rockville, MD: Westat, Inc.

This document is one of a series of ten reports (Technical Report, Research Note, and Research Products) which provide background information on, descriptions of methodology for, and documentation of, the 1985 Army Experience Survey (AES). This report is volume II of a two-volume set of cross tables describing midcareer separablees from the U.S. Army. Tabulation volumes contain: an introduction to the AES report series; sections overviewing the project and methodology; and a chapter explaining how to read and interpret the tabulations. The other major component of the tabulation volume is comprised of two-way tables of survey variables crossed with five banner variables. Volume I presents tables of selected survey items for mid-career separablees with the following five banner variables: respondent gender, race, AFQT category, time since separating, and term of first enlistment. Volume II contains tables with five different banner variables: respondents' current residence (recruiting brigade), pre-Army education level, marital status at Army separation, military skill groupings, and perceived value of Army experience. Companion volumes are also available for three other separation groups, i.e., first-term separablees, first-term attritees, and enlisted retirees.

Elig, T.W., Nogami, G.Y., & Kimmel, M.J. (1986). The 1985 Army Experience Survey: Tabular Descriptions of Enlisted Retirees. Volume 2. Rockville, MD: Westat, Inc.

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Westat, Inc (1986). The 1985 Army Experience Survey: Tabular Descriptions of Mid-Career Separatees. Volume 2. Rockville, MD: Author.

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#### Recruiting Specific Populations

Bachman, J. G., & O'Malley, P. M. (1984). Yea-saying, nay-saying, and going to extremes: Black-White differences in response style. Public Opinion Quarterly, 48, 491-509.

Obtained data from 3 nationwide surveys of youth ranging from 15 to 23 yrs of age: Monitoring the Future Project: Design and Procedures by J. G. Bachman and L. D. Johnston (1978), High School and Beyond: A National Longitudinal Study for the 1980's by the National Opinion Research Center (1980), and the National Longitudinal Survey of Labor Market Experience by the Center for Human Resource Research (1981). In all 3 studies, Ss completed Likert-type questionnaire items, and their responses revealed important racial differences: Blacks were more likely than Whites to use the extreme response categories, particularly the positive end of agree-disagree scales. Response style indices (agreement, disagreement, acquiescence, and extreme responding) displayed ranges of individual differences and cross-time stabilities comparable to commonly used personality measures. For both races, agreement tendencies were stronger among those in the South, especially in nonmetropolitan areas; however, controlling for geography did little to reduce overall Black-White



differences. Findings reveal potential pitfalls in dealing with racial differences in survey and personality measures and illustrate the need for caution in reporting and interpreting such differences.

Galing, S.E. (1991). Over-Representation in the U.S. Army of Minorities and Women in Career Management Fields (CMF's) 71, 76, 77, and 94 (Report No. USAREC-SR-91-3). Fort Sheridan, IL: Army Recruiting Command.

This study examines why minorities and women are migrating into four Career Management Fields (CMFs): 71-Administration, 76-Supply, 77-Petroleum and Water, and 94-Food Service. These CMFs have a disproportionate percentage of minorities and women relative to other Army specialties. The Recruiting Command was researched for any inherent bias which might be directing minorities and women into these skill areas. Youth attitudes pertaining to work preference and military service were scrutinized to determine if minorities and/or women are predisposed to these CMFs. It was found that the Recruiting Command is not encouraging minorities and women to enter these particular specialties. Also, research indicates that minorities score lower on the Armed Services Vocational Aptitude Battery (ASVAB) test. The low ASVAB score requirements of the 4 CMFs coupled with the apparent predisposition of many minorities and/or women to enlist for these types of jobs are the primary reasons for over-representation.

Ginter, J.L. & Goral, J.R. (1976). Minority Market Study. Washington, DC: Assistant Secretary of Defense (Manpower and Reserve Affairs).

This is a study of the minority male youth enlistment market. Study gauges Black and Hispanic youth propensity to enlist and attitudes, awareness and perceptions of military service.

Hicks, J. M. (1978). Women in the U.S. Army. Armed-Forces-and-Society, 4, 647-657.

Explored attitudes toward women in the Army as expressed by 1,718 Army enlisted women (EW) and 835 enlisted men (EM) by means of a questionnaire administered in December 1975. It was found that decisions to enlist made by EW had been more deliberate than those by EM. EW more frequently cited practical reasons for enlisting (e.g., vocational training, college benefits, travel). More EW than EM were working outside their primary military skill, but they were likely to be happy about it, especially if they held "nontraditional" jobs. EW more frequently than EM expressed overall satisfaction, showing a preference for a military job and satisfaction with their chance to learn a civilian job skill. Nonetheless, EW felt that they were not accorded the same status and respectability as EM. 50% of EW



planned not to reenlist, while 25% definitely planned to reenlist.

Kiplinger, V. L., Boesel, D. P., & Johnson, K. T. (1985). Propensity of Young Women to Enlist in the Military. A Report to the Congress. Alexandria, VA: Defense Manpower and Data Center.

This report presents the results of a review and analysis of current data on the propensity of young women to enlist in the Armed Forces. The study was requested by the Congress in the DOD Authorization Act, 1985. After briefly reviewing the history of women's participation in the Armed Forces and public attitudes toward their participation, the study analyzes recent data from three major, ongoing surveys of American Youth. Men are more likely than women to choose, or be chosen by, the military at each stage of the enlistment decision process examined in this study. About one third of the women and somewhat less than half of the men who take the written test subsequently enlist. Apparently the process of selection and self-selection that occurs between initial propensity and enlistment screens out people that occurs between initial propensity and enlistment screens out people with lower education and ability levels, leaving a population of enlistees who are substantially representative of American youth in these respects. Blacks are much more likely to be interested in serving than whites, with Hispanics occupying a middle position.

Petersen, R. (1989). Rationality, ethnicity and military enlistment. Social Science Information, 28, 563-598.

Asserts that 3 major considerations are involved when any member of an active ethnic group considers joining the military: economic considerations, outside-group considerations, and inside-group considerations. A model based on these assumptions is proposed. The deficiencies of the single-factor economic approach are discussed. The model is illustrated with case studies of Druze participation in the Israeli Defense Force and of Black participation in the South African Defense Force. Four challenges to the model are addressed: (1) irrationality, (2) indeterminacy, (3) heterogeneity of actors, and (4) social norms.

St. Pierre, Maurice. (1991). Accession and retention of minorities: Implications for the future. International Journal of Intercultural Relations, 15, 469-489.

Using data from the US Department of Defense, the accession and retention patterns of minorities and women over the past 20 years were analyzed in terms of their reward and punishment experiences. In this context, issues that affect non-White minorities (e.g., symbolic racism) and problems that concern women (e.g., child care, combat exclusion) were examined from the

perspective of majority-minority relations. There is a perception that the question of color may provide Asians and Hispanics with greater opportunities than Blacks. Black females had the highest retention rate; White females had the lowest retention rate when Native American and Pacific Islanders were excluded.

Teachman, J.D., Vaughn, R.A. & Segal, M.W. (1993). The Selectivity of Military Enlistment. Journal of Political and Military Sociology, 21, 287-309.

In this paper, we investigate the selective nature of military service, with emphasis on the period following the inception of the all volunteer force (AVF) in 1973. Following an argument made by Mare and Winship (1984), we seek to determine whether young men who voluntarily enlist in the military are positively selected with respect to characteristics valued in the labor market. We are particularly interested in the degree to which such selectivity applies more to blacks than to whites, thus leading to a "creaming" of the best young black men. Using background variables closely tied to positive socioeconomic outcomes, our results indicate support for positive selectability among black men. Among white men, military enlistment is concentrated among men with less privileged backgrounds and qualifications. The pattern for white men becomes less consistent over time, however, and may indicate a tendency toward increased selectivity.

#### Individual Enlistment Decision Making

Ali, L. (1991). Recruitment of Quality Soldiers (The Case of the Pakistani Army). Naval Postgraduate School, Monterey, CA.

This thesis studies two aspects of Army manpower: quality issues in the Army manpower, and the influence of economic variables (military compensation, advertising, and unemployment rate) on enlistment decision of the youth population, particularly high quality Army recruits. The level of education and scores on applicants' aptitude tests are the basic determinants of soldier quality. However, military training and environmental factors help to improve the quality of soldiers. With regards to the impact of economic variables, basic military pay and education incentives, that is money for college education, have major influences on enlistment decision of potential high quality recruits. Advertising and unemployment rates also have considerable impact on the enlistment decision. Following a discussion on quality and influence of economic variables, a model is formulated to minimize the Army's total costs subject to a given level of readiness.

Gade, P.A., Johnson, R.M. & Mills, C.B. (1986). Why They Joined and how you can use that information. Recruiter Journal, 39, 21-23.

This article reports the result of surveys conducted by the Army Research Institute of high school seniors and new recruits.

Horne, D.K, & Weltin, M.M. (1986). Motivation and career intentions. Journal of Behavioral Economics, 15, 29-42.

Evaluated an occupational decision model incorporating ability measures and attitudinal variables into an explanation of career intentions (i.e., whether to pursue an Army career or return to the civilian sector). 8,605 US Army recruits during 1983 were questioned on their reasons for enlisting and their plans after completion of their tour of duty (e.g., college, vocational training, reenlistment). Factor analysis generated 4 factors that represented enlistment motivation, which were significant determinants of Army career intentions. It is concluded that monetary and nonmonetary job or occupational attributes should be considered when modeling occupational decision-making.

Johnson, R.J. & Kaplan, H.B. (1991). Psychosocial predictors of enlistment in the all-voluntary armed forces: A life-event-history analysis. Youth and Society, 22, 291-317.

Examined a model of military enlistment that focused on individual motivations in a cohort of 2,408 males. Subjects were first interviewed as 7th graders in 1971 and were followed up between 1980 and 1988. Findings show that 491 Ss enlisted between 1972 and 1986, when between the ages of 17 yrs 6 mo and 19 yrs 9 mo. These Subjects were disproportionately non-White and from the working class. Disruptive life events increased the rate of enlistment, and Subjects who had been arrested were more likely to enlist. The rate of enlistment among Subjects who were submissive to punishment was greater than among those who neither recognized personal liability nor wished for punishment. Characteristics of dehumanization and association with deviant peers increased the rate of enlistment. Ss who felt disliked by their peers were more likely to enlist.

Perry, W.D. (1977). First-Term Reenlistment Intentions of Avionics Technicians: A Quantitative Analysis (Report No. RAND/R-2152-ARPA). Santa Monica, CA: Rand Corporation.

Focusing on a highly skilled field with acute manpower shortages, the author analyzes first-term reenlistment-intent responses from a survey sample of Air Force electronics technicians to develop an understanding of the factors affecting an individual's propensity to reenlist in or withdraw from military service. The military reenlistment decision is hypothesized as a continuous process during the enlistee's first term. The study provides a general statistical approach for determining a small set of key factors that explain and predict first-term reenlistment intentions. The author employs a range of methodologies, some not normally applied to manpower problems,

including principal components, regression, discriminant, and logistic analyses. The results center on six key explanatory factors: (1) the military career intentions at initial enlistment; (2) job satisfaction; (3) marital status; (4) economic incentives; (5) length of service; (6) desire to supervise others

#### Miscellaneous Propensity/Incentive Surveys

Bachman, J. G. (1983). American High School Seniors View the Military: 1976-1982. Armed Forces and Society, 10, 86-104.

Views about military matters among high school seniors from 1976 through 1982 are reported from data obtained each year via classroom-administered closed-ended questionnaires completed by nationally representative samples (N=16,662 to 18,924). The period from 1976 through 1982 was marked by many events that affected views about the military; accordingly, views appear complex, multidimensional, and capable of treading in several different directions. Expectations about enlistment declined during the late 1970s, but then more recently rose-perhaps in direct response to shrinking civilian job opportunities. Views about working conditions in the military have shown some parallel shifts. Support for increased military spending dropped sharply in 1982, probably because of a perception that such an increase had just occurred; nevertheless, there was much enthusiasm for a program of increased educational benefits as an incentive to enlistment. Finally, concern about the risk of nuclear war has risen steadily, so that now substantial proportions of high school seniors expect their own lives to be ended by nuclear or biological disaster.

Bachman, J. G. (1974). Values, Preferences and Perceptions Concerning Military Services: Part II. Ann Arbor, MI: Ann Arbor Institute for Social Research, Michigan University.

The report continues an analysis of perceptions and attitudes concerning military service, and the way they are linked to views relevant to enlistment. Data are based on a sixteen-page self-completed questionnaire administered to a national sample of civilians and a cross-section of Navy personnel. The broadest finding of the research is that attitudes about enlistment, and also plans for re-enlistment among Navy men, are closely linked to a wide range other views about the military services and their mission. The findings suggest that, under present conditions, an all-volunteer force is likely to recruit and retain personnel from only part of the ideological range found in the civilian population. The very individuals who are needed to broaden the balance in the Navy are the least likely to enlist--or re-enlist.

Bachman, J. G. & Blair, J. D. (1975). Citizen Force or Career Force?: Implications for Ideology in the All-Volunteer Army. Armed Forces & Society, 2, 81-96.

Investigation is made into the existence of a 'military ethos' in the career military person, which would differentiate his values, perceptions, and preferences from those held by civilians. Data were gathered from two samples: (1) a national representative cross-section of 1,855 civilians, 16 years old and above, and (2) a stratified sample of 1,855 Navy personnel. Sixteen page self-administered questionnaires were administered to both samples in 1972-73. The Navy sample was subdivided into 2 groups of 1st-term enlisted, aged 19-24, and later-term enlisted men. The 1st-term group was classified as 'career oriented' (intending to reenlist) and civilian oriented. Career oriented young men clearly held views different from their civilian age-mates and their civilian oriented service-mates. Comparison of the total Navy sample with the public sample showed little differences in most areas, with the exception of civil-military relations; this similarity is speculated as resulting from inclusion of civilian-oriented Navy personnel in the military group. In all aspects of the military examined, the career-oriented subsample of the Navy group was decidedly more 'promilitary' than the others; they viewed all aspects of the military (organization, use of military force, civil-military relations) differently. The danger in building a military career force clearly lies in aggregating an ideological basis that is vastly different from the civilian one. This danger could be countered by drawing into the military, through financial and educational incentives, civilian oriented military personnel that would temper a military ethos.

Bachman, J. G., & Blair, J. D. (1975). Soldiers, Sailors and Civilians: The 'Military Mind' and the All-Volunteer Force. Ann Arbor, MI: Ann Arbor Institute for Social Research, Michigan University.

This report presents findings from three nationally representative samples: (1) civilians surveyed in early 1973; (2) Navy personnel surveyed in late 1972 and early 1973; (3) Army personnel surveyed in late 1974 and early 1975. Each of the surveys used the same basic 16-page self-administered questionnaire. The survey findings reveal differences in values and attitudes about the military among different and military subgroups. In particular, career-oriented military men differed substantially from their civilian counter-parts; these career men showed more positive views of military job opportunities and leadership, support for higher levels of military spending and influence, a 'hawkish' view of foreign policy, and a high value placed on 'obeying orders without question.'

Bachman, J. G., & O'Malley, P. M. (1980). The Youth in Transition Series: A Study of Change and Stability in Young Men. Research in Sociology of Education and Socialization, 1, 127-160.

The national longitudinal Youth in Transition study, initiated in 1966, began with 2,213 tenth-grade boys in 87 public schools across the US; follow-up studies have continued through 1974, with a total of 5 data collections. A major distinguishing feature of this study is its concern with factors that may affect attainment but often are not taken into account, especially personality measures such as self-esteem, and behavioral measures such as participation in delinquent acts. Major policy implications are noted, including a need to end that antidropout campaign, to move toward alternative forms of credentials, and to have formal education take less time and offer more options.

Bachman, J. G., Sigelman, L., & Diamond, G. (1987). Self-Selection, Socialization, and Distinctive Military Values: Attitudes of High School Seniors. Armed Forces and Society, 13, 169-187.

Do the distinctive promilitary values of military personnel arise out of socialization during military training and service, or from prior differences in values and beliefs among those who enter military service? Questionnaire data from high school seniors in 10 classes, 1976-1985, collected during large-scale surveys (N not reported), clearly support the self-selection interpretation; those expecting to serve, especially those expecting to lead military careers, were consistently more promilitary than their classmates. The largest differences involved perceptions of military job opportunities; views on military supremacy, intervention, and obedience also differed, but less sharply. These findings replicate earlier research, suggesting that self-selection is dominant and that actual service may not substantially alter prior attitude differences. An all-volunteer force containing numerous careerists raises the question of a separate military ethos.

Baker, H.G., Berry, V.M., McClintock, V.M., & Norris, L. (1990) Automated assessment of reasons for joining an organization. Journal of Psychology, 124, 711-719.

Administered an automated instrument capable of identifying and rank ordering reasons for joining an organization to 150 male US Marine Corps recruits. Testing time ranged from 2 min 46 sec to 5 min 14 sec. Because of its ease of administration and effectiveness in identifying motivators, the automated instrument holds significant potential for use in a variety of settings in which personal characteristics (e.g., preferences, choice criteria, values) must be rapidly identified.



Bartling, C.A. & Eisenman, R. (1992). Attitudes of American youth concerning military and civilian jobs. Adolescence, 27, 407-412.

A mail survey was conducted to study the attitudes, background, and motivations of 306 youths (aged 16-21 yrs) toward military and civilian jobs. About twice as many females as males and twice as many minority group members as Whites were sampled. Three topics were examined: ratings of job characteristics, perceived occurrence of job characteristics in military and civilian jobs, and propensity toward military service. Blacks and Hispanics, but not Asian-Americans, had a more favorable attitude toward military service than did Whites, and males viewed military service more favorably than did females. Military service was seen as patriotic and providing leadership training, while civilian jobs were seen as allowing for more freedom and being more enjoyable.

Batschelet, A.W. (1994). National Service and Its Effect on the Army's Ability to Acquire Quality Soldiers. Army Command and General Staff College, Fort Leavenworth, KS.

This thesis investigates the effect the National and Community Service Act of 1993 will have on the Army's ability to acquire high-quality soldiers. The research shows that the Act of 1993 will attract one-third of the high-quality youth who had previously indicated a desire to serve in the Army. This equates to 24,500 of the 70,000 individuals the Army must recruit annually. The analysis includes a determination of the factors affecting the problem: (1) Young Americans willingness to serve in the Army, (2) The Army's requirement to enlist quality soldiers given the increasing technological complexity of Army weapon and support systems, (3) Targeted youth population size and quality, (4) Benefits of serving in a national service program or the Army. Career choices of the targeted youth regarding Army and National Service were analyzed in the context of the four factors affecting the problem. Money for college is the primary consideration of high-quality youth when making a career decision. The National Service Act of 1993 provides an educational benefit nearly equal to that offered by the Army. This research shows that the majority of high-quality young people prefer National service to Army service as a means of obtaining money for college.

Borgida, E., Sullivan, J.L. & McGuire, D.P. (1991). Costs and Errors in Survey Sample Design: An Application to Army Prospect and Recruit Surveys. Minnesota University, Minneapolis.

This report discusses the implications of survey costs and sampling errors for the design for marketing, program evaluation, and sales satisfaction surveys used in Army recruiting. The first



section gives an overview of relevant research on the recruitment process, describes survey populations at different stages of recruiting, and identifies major variables that affect sample design and survey content. The second section examines the effect of seasonality on survey response and sampling and presents results of data analyses. The third section presents a general model of costs and errors in survey sampling for four stages of the recruiting process: initial appointments, applications, contracts, and accessions. The fourth section discusses application of the model to ongoing surveys at all four stages of the recruitment process. In particular, the costs, benefits, errors, applicability, and practicability of alternative sampling plans are described. This report is the first of two reports on this subject.

Bowers, D. G., Bachman, J. G. (1974). Military Manpower and Modern Values. Ann Arbor, MI: Ann Arbor Institute for Social Research, Michigan University.

The report summarizes findings obtained in the first two years of a study of the implications of possible values changes in society for Navy manpower and management practices. Multivariate analyses of data collected from Navymen in a representative sample of units and from a civilian national cross-section suggest that, while there is no perceptible generation gap on work and leadership style preferences, there is an educated-related generation gap on receptivity to autocratic versus democratic management styles. Functional characteristics of Navy as an organization are summarized. Values and attitudes toward military service, by both Navymen and civilians, are similarly analyzed, and possible action or policy steps are suggested.

Crossley Surveys Inc. (1986). Changes in the propensity to Enlist Over Time among High Quality Prospects. New York.

This market research study was requested because the US Army Recruiting Command (USAREC) is interested in determining how the propensity to enlist in the Army varies over a 12-month period. Moreover, USAREC also wants to know more about high quality prospects. Specifically, USAREC wants to be able to identify and quantify among high quality prospects with a low propensity to contact an Army recruiting office (1) that segment of such prospects who are most susceptible to a favorable change in attitude, and (2) the characteristics/perceptions that differentiate this segment from those prospects with a high propensity to contact an Army recruiting office.

Faris, J. H. (1981). The military occupational environment and the all volunteer force. In A. R. Millet & A. F. Trupp (Eds.), Manning the American Armed Forces: Problems and Prospects (pp. 31-42). Columbus, OH: Mershon Center.

Summarizes longitudinal changes in the attitudes and enlistment propensity of American youth towards the military in the context of Institutional Occupational model. Reviews the literature supporting an economic perspective on enlistment propensity and argues for the prominence of other factors in predicting the enlistment decision. Provides a rationale for research into the role of family, peers, culture, personality and temperament as predictors of enlistment.

Fisher, A.H., Jr. (1971). Attitudes of Youth Toward Military Service: Results of a National Survey Conducted in May 1971. Alexandria, VA: Human Resources Research Organization.

A national survey of civilian youth, conducted in May 1971, had as objectives, determination of the following items of information about American youth: (1) Their potential for voluntary enlistment in the Regular and Reserve forces in a draft-free environment. (2) Their factual knowledge and perceptions of the Regular and Reserve forces. (3) Their reactions to enlistment incentives, benefits, compensation, and options or conditions of Service, and (4) Their enlistment propensity in terms of demographic characteristics, socio-economic background and educational/occupational status, achievements and interests. This report provides information about the motivations and predispositions of contemporary American civilian youth. Results derive from a nationwide sample of young male civilians, ages 16 through 21, who expressed their opinions on these topics through the mechanism of personal interviews. This report also presents their reactions to current and potential alternative programs for providing manpower for the military services.

Gade, P.A., Lakhani, H. & Kimmel, M. (1991). Military Service: A Good Place to Start? Military Psychology, 3, 251-267.

Recruitment advertising has suggested that military services is a good place to begin the transition to adult life. Browning, Lopreato, and Poston (1973), in particular, proposed that military service act as a bridge to adult roles and that minorities, in particular, benefit from military service. A life-course analysis of data from a 1985 survey of 2,566 one-term Army veterans supported this bridging hypothesis with evidence of subjective impact of military service on women and minorities. Consistent with previous research, results also showed that the timing of military service with respect to age at entry, marital status at entry, and educational level at entry influenced both subjective and objective assessments of the impacts of military service. Type of army job (combat or noncombat) seemed to have little impact on the either subjective or objective outcomes. In-service education positively influenced postservice employment, earnings, and education. Veterans' subjective ratings of the value of Army service were positively related to

the ease of finding one's first postservice job, the tendency to be employed full time, higher monthly income, and higher educational achievement. Results are discussed with respect to life-course theory in general and bridging hypothesis in particular.

Johnston, J., Bachman, J. G., & Waller, E. A. (1974). Young Men and Military Service: Condensation of Volume V. Youth in Transition (AFHRL-TR-73-70). Brooks AFB, TX: Armstrong Lab.

Condensation of a report documenting a study to discover what factors influence young men to enlist in the military service as opposed to taking jobs or continuing education. The study covers a span of four years, 1966-1970, in the lives of 2,213 young men, beginning in the tenth grade and ending one year after high school. The major finding of the study was that there is no single military type. Enlistees are not characterized by any particular profile of background, ability or personality.

Kane, R.P. (1984). Political Ideology and the Willingness to Enlist. Proceedings of the Ninth Symposium: Psychology in the Department of Defense, 43, 506-510.

This paper will contrast the relative impact of patriotic and apatriotic motives on decisions made by a group of college students to enlist in the armed forces. The decision to contrast differences in political ideology is made to assess the impact of the increasing reliance by the military to focus on levels of pay and other market-linked conditions of work to establish military manpower policy. The central thesis of this study is that this reliance on economic incentives disregards the political motives of potential members. The basic research design of the paper is to ask who, by political ideology, is most inclined to enlist under presently constructed conditions and then to repeat the process after offering more attractive enlistment incentives. The hypothesis that students whose responses indicate that they tend to be ideologically apatriotic will show a greater propensity to enlist is rejected. The principal conclusion is that patriotism does play a role in determining the enlistment decision.

Nye, L.G. & Collins, W.E. (1991). Some Personality Characteristics of Air Traffic Control Specialist Trainees: Interactions of Personality and Aptitude Test Scores with FAA Academy Success and Career Expectations (Report No. DOT/FAA/AM-91/8). Washington, DC: Federal Aviation Administration, Office of Aviation Medicine.

The State-Trait Personality Inventory (STPI) is a self-report inventory which measures anxiety, curiosity, and anger. The three 'trait' scale scores are determined by the frequency of each emotion as stable personality constructs. The Multiplex Controller Aptitude Test (MCAT) is the primary selection test completed by ATCS applicants. The STPI was given to 1,284 students who entered the FAA Academy nonradar screen program between October 1986 and September 1987. Men and women ATCS trainees exhibited less anxiety and anger than normative groups of college students and Navy recruits. Also, in most comparisons, the ATCS sample indicated greater curiosity. ATCS pass rates were reduced within each MCAT score level for the groups of entrants with anxiety or anger scores above the normative levels. Personality trait profiles differed significantly for groups when they were categorized by both self-expected job performance levels and job satisfaction, but not aptitude score levels. Analyses indicated significant relationships between anxiety and lower job performance self-expectations and between curiosity and higher self-expected job satisfaction. FAA Academy entrants have a group profile indicating relatively low levels of trait anxiety and anger. Personality factors can impact (a) the predictive validity of the MCAT in determining a student's aptitude for learning air traffic control principles/procedures and (b) potentially, organizational goals such as increasing employee job satisfaction.

O'Malley, P. M., Bachman, J. G. & Johnston, L. D. (1978). Drug Use and Military Plans of High School Seniors. Youth & Society, 10, 65-77.

Data are presented on the use of licit and illicit drugs by nationally representative samples of high-school seniors in the classes of 1976 and 1977, comparing those who expected to enter military service with those who did not expect to do so. Data are from the Monitoring the Future project, an ongoing series of annual nationwide questionnaire surveys of seniors in high schools. To avoid confounding, the comparisons were made separately for four groups: College-bound males, non-College-bound males, College-bound females, and non-College-bound females. Contrary to previous findings, drug use rates were not very different for various categories of military service expectations, and were certainly not higher for the premilitary groups. The findings are interpreted as indicating that those who enter all-volunteer military service do not bring with them a history of greater drug use than their comparably educated age-sex mates. Combined with previous findings, the present findings suggest that there is neither an important selection effect nor an important socialization effect of military service on illicit drug use. The lack of drug use differences is in contrast to clear ideological differences between seniors who expect to enter military service and those who do not; the former have considerably more favorable attitudes toward the military.

Orvis, B.R., Gahart, M.T. & Ludwig, A.K. (1992). Validity and Usefulness of Enlistment Intention Information (Report No. RAND/R-3775-FMP). Santa Monica, CA: Rand Corporation,

This document reports on the validity and application of enlistment intention information for nonprior-service youth (i.e., individuals who have not previously served in the military). A number of surveys of young people ask respondents to rate their intention to enlist in the military. The resulting information has been used for three major purposes. First, to support recruit marketing analyses, intention information has been used as a means of distinguishing individuals who are more likely to enlist from those less likely to do so. Second, intention information has been used at the aggregate level as a barometer of enlistment rates. Third, to provide policy guidance, intention information has been used to predict changes in military enlistment and reenlistment behavior in response to alternative prospective options. The results discussed in this synthesis document provide strong support for using enlistment intention information in recruiting research. These results demonstrate both the relationship between stated intention and actual enlistment behavior and the potential usefulness of intention data in making enlistment predictions for variety of purposes. In addition, we found that several factors affect the relationship between intention and enlistment and that the negative intention group is an important source of enlistees.

Orvis, B.R. & Gahart, M.T. (1990). Enlistment Among Applicants for Military Service: Determinants and Incentives (Report No. R-3359-FMP). Santa Monica, CA: Rand Corporation.

This report presents findings on three research issues, drawing primarily on results from the 1983 Survey of Military Applicants, a survey of male youths without prior military service who took the written test to qualify for the military.

Owens, T. J. (1992). Where do we go from here? Post-high school choices of American men. Youth and Society, 23, 452-477.

Developed a general schema for identifying the importance of factors influencing a boy's decision to enter the full-time labor force, the military, or college after high school. Data were drawn from the Youth in Transition Study (J. G. Bachman et al, 1978), a 5-yr longitudinal study of 2,213 randomly selected 10th-grade boys attending 87 public schools in the US. 25 potentially important context choice predictors were identified, ranging from psychological constructs (e.g., intellectual ability and self confidence) to social variables (e.g., family SES and farm vs nonfarm origin). The 25 predictors were grouped into 6 influence domains. Although every influence domain contributed to the context choice, the family contingencies domain, the school performance and experiences domain, and the family and

peer influences domain had the greatest influence, while attitudes toward self and society had the least.

Owens, T.J. (1992), The effect of post-high school social context on self-esteem. Sociological Quarterly, 33, 553-577.

Examined the effect of post-high school social context on self-concept development by assessing changes in positive self-esteem (i.e., self-confidence) in a national longitudinal sample of men who entered the full-time labor force, the military, or college after high school. Data are from the Youth in Transition study (J. G. Bachman et al, 1978) of 2,213 US high school students. Of the 3 contexts, the military had the greatest (negative) impact on self-concept, followed by work (slightly negative) and college (no impact). The negative effect of the military (and possibly work) context may be rooted in the larger sociohistorical processes impinging on the individual, and on the workers' and servicemen's low organizational positions. College's lack of effect may be due to the students' relatively high prior self-esteem and the possibility that college has more impact on social and political values than on self-worth.

Segal, D. R., & Bachman, J. G. (1994). Change in the all volunteer force: Reflections in youth attitudes. In (Eds.) M. J. Eitelberg & S. Mehay Marching Toward the 21st Century, West Port, CT: Greenwood Press.

Describes the history of the all volunteer force in terms of five distinct phases reflecting changes in the recruiting climate over a seventeen year period. Analyzes the effect on recruit quality of changes in entry level pay, recruiting resources, educational benefits, and recruiting environment (youth unemployment and cohort size). Compares the attitudes and expectations of various groups, i.e., males versus females, college oriented versus non-college oriented, and African-American versus Hispanic versus Caucasian, towards the career potential of the military.

Segal, D. R., & Bachman, J. G. (1978). The Military as an Educational and Training Institution: A Comparison among Post-High School Alternatives, Youth & Society, 10, 47-64.

Survey data on the high-school senior classes of 1975, 1976 and 1977, as well as a 1976 postgraduation follow-up of the class of 1975, are analyzed to determine the intentions of high-school seniors to serve and the degree to which these intentions are fulfilled. Data are from the University of Michigan Monitoring the Future project, with base year samples ranging from 16,000 to 18,000 students. High-school students were more likely to want further education or vocational training than to serve in the armed forces, and were more likely to expect education or vocational training than military service. More male respondents



expected to serve in the armed forces than wanted to, perhaps reflecting the role of the military as an employer of last resort. More female respondents expressed a desire to serve than expressed an expectation that they would, reflecting the limited role that women have been allowed to play in the armed forces. Over 40% of the 1975 seniors who had expected to enter the military had changed their minds by the spring of 1976, as compared to 31% of those expecting to go to vocational school, 28% of those who had planned to go to two-year colleges, and 8% of those who had planned to go to four-year colleges. The data suggest that American youth do not regard the military as a desirable post-high-school environment, and that despite the role the military can play in providing vocational training or helping finance higher education, these incentives are not attracting large numbers of citizen-soldiers.

Segal, D. R., Bachman, J. G., & Dowdell, F. (1978). Military Service for Female and Black Youth: A Perceived Mobility Opportunity, Youth & Society, 10, 127-134.

Data collected from a sample of high-school seniors in 1977 as part of the University of Michigan's "Monitoring the Future" project were analyzed to determine variations in perceptions of the military job environment by gender and by race. A sample of 125 schools was selected to represent high schools throughout the US; 200 or more seniors were surveyed in each school, yielding a total sample of approximately 18,000. In general, females evaluated job opportunities in the military more positively than did males, and blacks had more positive evaluations than did whites. These effects were additive, so that black females were the most positive, and white males the least positive, in their evaluations. These findings support the proposition that the military is viewed as a potential mobility channel for groups that are disadvantaged in the civilian labor market.

Setlow, C.E., Bass, R., & Schroyer, C.J. (1990). Analysis of the 1990 Survey of High School Youth and Parents (Report No. HUMMRO- 90-26). Alexandria, VA: HUMMRO International, Inc.

The 1990 Survey of High School Youth and Parents was designed to provide the Army with the relative appeals among high school juniors and seniors and their parents of: (1) increased Army College Fund entitlement levels, (2) increased enlistment bonuses; and (3) National Service Act legislation comparing community with military service. Youth surveys were administered in 350 high school English classes nationwide. The parents survey was administered via Computer Assisted Telephone Interviewing (CATI) in the homes of parents of junior and senior males. Males of high academic standing (indicated by grades in school) were analyzed separately. Findings indicated that 15% of all high school juniors and seniors nationwide express a positive propensity to join the military and 8% express a positive



propensity to join the Army. Fifty-five percent of high academic males are familiar with the Army's educational incentives and more money would successfully attract more enlistments. Familiarity with enlistment bonuses is much lower; however, more money would increase the propensity of high academic males. Familiarity with National Service Act legislation is low for both youth and parents; however, given the option most youth would choose community service. Many other findings useful for the Army's recruiting and advertising program are presented.

Trent, T. & Quenette, M.A. (1992). Armed Services Applicant Profile (ASAP): Development and Validation of Operational Forms (Report No. NPRDC-TR-92-9). San Diego, CA: Navy Personnel Research and Development Center.

The objectives of the research were (1) to develop operational forms of a biographic instrument (Armed Services Applicant Profile (ASAP) that measure background dimensions related to applicants' propensity to adapt to military life, (2) to determine the validity of the ASAP to predict attrition, and (3) to implement the ASAP into the enlisted screening system. Applicants to the Armed Services (N = 120,175) were administered one of two forms of the ASAP and accessions were tracked through their first three years of enlistment. The weighted biographical data predicted three-year service completion ( $r_{pbis} = .30$ ) and demonstrated significant incremental validity in addition to operational screens (education attainment and Armed Forces Qualification Test). If implemented for enlisted screening, this increased precision will decrease annual attrition by several thousand. The ASAP is a valid predictor of attrition for all groups and would not result in adverse impact against women or nonwhite groups.

Tyson, K.W. & Horowitz, S.A. (1992). Lateral Entry of Military Personnel (Report No. IDA-P-2565). Alexandria, VA: Institute for Defense Analyses.

The current system of training people within the military may no longer be affordable. IDA considered whether the military would benefit from increased lateral entry, a policy in which recruits with some civilian training come into the military at an intermediate level. First, IDA reviewed current policies, which are different depending on whether the personnel have served in the military before or not and whether the personnel are entering the active forces or the reserves. Next, IDA examined the types of occupational specialties appropriate for lateral entry and benchmarks for the amount of cost savings. Lateral entry provides a cost-effective means of reducing the size of the active forces by accessing people after they are trained and productive and by reducing the number of people in the military training establishment. Lateral entry also gives the military the means to add people with the right technical skills quickly. The study

considers benefits and risks of policy change and discusses implementation through changes in personnel requirements, easier re-entry for prior service personnel, and more flexible pay.

#### Enlisted Supply

Bohman, J.D., Call, V.R., & Segal, M.W. (1993). Family, work, and school influences on the decision to enter the military. Journal of Family Issues, 14, 291-313.

Examined correlates of enlistment in the military all volunteer force, using longitudinal data on males followed between 18 and 24 yrs of age. The effects of marriage, parenthood, school enrollment, and employment status on enlistment were examined for White and Black men. It is argued that the potential for role incompatibility and conflict between the military and employment, school, and family roles will reduce the likelihood that men who have these roles will enter the military. Results of multivariate analysis indicate that work and school enrollment significantly reduced the likelihood of enlisting in the military for Whites but not for Blacks. Marriage and parenthood did not affect the likelihood of military enlistment for either Whites or Blacks.

Nord, R.D., Schmitz, E.J., & Weiland, T.A. (1986). Propensity and the Enlistment Decision (Report No. ARI-TR-723). Alexandria, VA: Army Research Institute for the Behavioral and Social Sciences.

This research examined the relationship between actual military enlistments and enlistment intentions, educational expectations, and other factors. A number of factors including enlistment intentions, were found to predict enlistment behavior. Projected enlistment rates, given changes in significant factors, are reported.

Ree, M.J. & Earles, J.A. (1991). Estimates of Available Aptitude as a Consequence of Demographic Change (Report No. AL-TP-1991-0019). Brooks AFB, TX: Armstrong Lab.

The effects of demographic trends on aptitudes of dynamics were service eligible youth were estimated for the years 1980 through 2010. Census estimates of subpopulation used to project the number of available youth in the prime ages for military service. Aptitude was measured using the Armed Services Vocational Aptitude Battery (ASVAB). Two trends emerged. First, the absolute number of enlistment eligible youth decreases from 1980 to a nadir in 1995, and although it climbs slowly after 1995, it remains below the 1980 cohort size through 2010. Second, each of the measures of aptitude shows an average decline through 2010. Such changes have the potential to affect Air Force recruiting and training policy.

Verdugo, N., & Nord, R.D. (1987). Projections of the Male Youth Population and Enlistment propensity by Army Recruiting Battalion, 1980-1995 (Report No. ARI-RP-87-34). Alexandria, VA: Army Research Institute for the Behavioral and Social Sciences.

This report provides estimates and projections of the number of 17- to 21-year-old males by race and Hispanic ethnicity in each Army recruiting battalion for the years 1980-1995. Additional estimates are provided by test score category (TSC) on the Armed Forces Qualification Test (AFQT), high school graduation status, and propensity to enlist in the Army specifically, and a more general propensity to enlist in any service. Population estimates and projections are also provided for Hispanic males aged 17 to 21 in each of 10 states. Findings include evidence of significant population declines in this age group, particularly during the 1980-1985 period. Hardest hit by population declines are the 1st (Northeast) and 4th (Midwest) recruiting brigades. While the overall youth population is declining, the Hispanic population is increasing in both size and proportion. An obstacle to recruiting more Hispanics, however, is that they are less likely to graduate from high school than either whites or blacks. With respect to Insular Puerto Ricans, the inability to speak English prevents many from passing the AFQT.

#### Market Conditions

Boucher, W.I. & Morrison, J.L. (1988). Alternative Environments for Army Recruiting, 1987-2001. Vols. 1-3. (Report No. RR-1493). Alexandria, VA: U.S. Army Research Institute.

This three-volume report illustrates the application of its concepts and techniques of futures research to national security planning. Its focus is on the outlook for Army recruiting over the next 15 years, given the various ways the external, social, technological, economic, political, and military environment may evolve in this period, nationally and internationally. In Volume 1, four scenarios are presented that incorporate hundreds of original forecasts derived through use of an advanced version of the Delphi method. Three of the scenarios represent alternatives to the "most likely" future, which is presented in detail. The results provide a unique foundation for identifying and evaluating policy options for Army recruiting, and guidelines for such a policy analysis are included, along with extensive discussion of rationale for this approach to planning. Volume 2 presents a variety of graphs depicting possible future changes. Volume 3 contains the appendixes.

Cooper, D.L. (1991). A Cross-Sectional Investigation of the Effects of Regional Labor Market Conditions on the Reenlistment Decisions of Air Force Enlistees (Report No.

AFIT/GLM/LSR/91S-33). Air Force Institute of Technology,  
School of Systems and Logistics, Patterson AFB, OH.

A great deal of literature measuring the relationship between labor market perceptions and voluntary employee turnover exists. However, literature measuring the relationship between general labor market conditions and voluntary employee turnover is scarce. Moreover, to date only one article has included both labor market perceptions and general labor market conditions in testing a voluntary turnover model. This thesis provides a second test of a proposed voluntary turnover model that incorporates both labor market perceptions and general labor market conditions. Using survey data collected by Flores in 1984 and reenlistment data collected by Hoene in 1986, a cross-sectional investigation of the effects of general labor market conditions, as measured by regional unemployment rates, on the reenlistment decisions of first-term Air Force enlistees was conducted. Additionally, the effects of labor market perceptions, cognitive ability, and tenure on reenlistment decisions were examined. A model of voluntary employee turnover was developed and tested. One of seven hypotheses was supported, providing little support for the proposed model.

Eitelberg, M.J. & Mehay, S.L. (1992). The Shape of Things to Come: Trends and Projections Affecting Military Recruiting and Manpower in the 21st Century (Report No. NPS-AS-92-023). Naval Postgraduate School, Department of Administrative Sciences, Monterey, CA.

As the subtitle states, this is a compilation of trends and projections that are expected to affect Army recruiting and manpower policy in the 21st Century. Over one-hundred trends are identified in eleven major areas. The possible implications of these trends are then addressed along with related issues or questions for manpower policy makers. The material presented here was drawn from many sources. Although these sources are not listed, they cover a range of disciplines and reflect some of the best thinking on 'where we are' and where we may be heading in the years ahead. An attempt was made to limit the trends and projections to those that are somehow connected to staffing the military -- particularly the Army -- of the future. These connections may not always be clear, and they are certainly subject to disagreement. The power to control one's future is greatly strengthened by understanding the various influences of the past and present. This is an important part of the planning process, and is the primary objective of the work presented here. The Shape of Things to Come was created as a resource for military manpower planners and policy makers, as a collection of useful information for asking questions, raising discussion, and ultimately helping to design the Army of the 21st Century.

Faris, J.H. (1984). Economic and Noneconomic Factors of Personnel Recruitment and Retention in the AVF. Armed Forces and Society, 10, 251-275.

This article makes use of broader social science and institutional analyses in order to understand the continuing adaption of the AVF. The purpose is to present a more comprehensive view of the emerging patterns of recruitment and retention of enlistees and officers during the initial phase of the all-volunteer force. The research approach applies sophisticated multivariate statistical analysis to the available survey data in determining the relationships of both market and noneconomic factors.

Human Resources Research Organization. (1993). Media Habits of American Youth: Findings from the 1990 Youth Attitude Tracking Study. Alexandria, VA.

An essential step as the Services and DoD develop their respective recruiting advertising strategies, campaigns, and executions is to determine the best means of media audience delivery. Within a given advertising budget, resources are allocated to specific media based upon their effectiveness in reaching the target market. The media mix consists of national and local advertising for television, magazines, radio, newspapers, direct mail, and point-of-sale material. Each type of media serves a specific purpose. Television builds audience reach through exposure to a wide variety of people; it is the most visual and intrusive advertising medium. Radio advertising builds frequency of message delivery through repetition and can be highly targeted to a specific audience based upon format. Television and radio are often used in combination to introduce an advertising message and generate awareness. Magazine advertisements can also be highly targeted and provide space for a more detailed explanation of various programs, opportunities, and benefits. Poster advertising reinforces creative messages conveyed through other media. Military advertising in newspapers, magazine coupon inserts, and direct mail literature is often designed to solicit a response from prospects via business reply cards or 800 telephone numbers. Point-of-sale materials are used by recruiters to supplement their presentations to prospective recruits and provide facts; they are designed to 'tell' about a program rather than 'sell' the military.

Mehay, Stephen L. (1993). USAR Recruiting and Manpower in the 21st Century. (Report No. NPS-AS-93-027). Naval Postgraduate School, Monterey, CA.

The reserves components are beset by changes that are unprecedented in their magnitude and complexity. In addition to the usual demographic, economic, and social changes that affect the external reserve recruiting environment, the downsizing of

the armed forces, federal budget deficits, and the Persian Gulf war have all exerted unusual pressures on reserve policy makers. Indeed, the changes being introduced or planned for the Reserves are the most extensive since the advent of the all-volunteer force in 1973. They involve the active-reserve mix, the missions to be assigned to the reserves, as well as manpower requirements and recruitment policies. It is in this unique context that this report attempts to sort out some of the factors -- both external and internal -- buffeting the reserves, to identify the trends in these factors, and to indicate likely future effects on the U.S.

Segal, D. R. & Segal, M. W. (1983). Change in military organization. Annual Review of Sociology, 9, 151-170

Reviews recent literature in military sociology in the context of theories regarding increasing rationality on the part of societies, organizations, and individuals. Models that emphasize individualistic orientations to military service are compared with models that assume a more collectivistic orientation. Attention is paid to the shift from a mobilization-based armed force to a force in being, and to the convergence between military and civilian organizations. Several consequences of the rationalization of the military are considered, including potential changes in willingness to fight, military unionization, changes in professionalism, the substitution of management for leadership, increased utilization of women, and dependence on research, including social science research.

Thomas, G. & Kocher, K. (1993). Navy Nuclear Recruiting Markets: Race-Ethnic/Gender Qualification Rates (Report No. NPS-AS-93-031). Monterey, CA. Naval Postgraduate School.

This report presents exploratory model-building for identifying and analyzing the recruiting market for Navy occupations in the highly technical nuclear field. Variation in eligibility for nuclear occupations by race and gender subsets of the recruiting market is examined. Logistic regression models for race/gender market segments estimate the relationship of socioeconomic factors and geographic location to four classifications of mental qualifications: (1) high quality (mental category IIIA and above) eligible for Navy nuclear occupations, (2) high quality not eligible for these highly technical occupations, (3) mental category IIIB, and (4) not eligible for the military labor market (mental category IV and below). The results of these models are then used to estimate the size of nuclear qualified markets of 17 to 21 year old high school graduates at the county level. Great variation in nuclear qualification by gender and race-ethnic group is apparent in these estimates with white males qualifying at rates substantially above all other groups. Regional variation reflects these demographic characteristics.



## Market Segmentation

Greenwood, M.J. & Mehay, S.L. (1991). Trends in Regional Patterns of Migration, Immigration, and Economic Activity: Implications for Army Recruiting (Report No. NPS-AS-91-015). Naval Postgraduate School, Department of Administrative Sciences, Monterey, CA.

This report tracks historical trends in regional migration and economic conditions and the link with Army recruiting patterns. Future projections of regional population, migration, and economic activity are also presented. A third area of analysis is the impact of foreign immigration on regional markets is analyzed. Finally, the likely impact of projected changes in regional recruiting markets on Army recruiting prospects are assessed.

## Service Specific Advertising

Beagle, R.J. (1993). The Navy's Search for a Few Good Women: Analysis of a Direct Mail Campaign. Naval Postgraduate School, Monterey, CA.

The purpose of this thesis was to attempt to select significant individual characteristics of women who met Navy Recruiting Command standards for enlisting in technical rates. Additionally it attempted to select geographic characteristics of these qualified women. To that end, a logistic regression analysis was conducted on data from approximately 100,000 qualified high school juniors and seniors. For a student to be qualified for this study, she must have scored above the 31st percentile on the AFQT and above the 50th percentile on one of three subtests: Auto-Shop Information, Electronics Information, or Mechanical Comprehension. The database contained Military Entrance Processing Command files and 1990 Census data. This research found for individual regression models interaction effects were present between future plans and geographic area, and between service preference and geographic area when determining interest in the military. It found for geographic regression models the proportion of students interested in military service out of those available increased in geographic areas (Naval Recruiting Districts) where more personnel were in the armed forces, more people were associated with technical occupations, and where median family income was higher. The analysis found the proportion of students available for military service out of the target market population (females aged 17-21 years) decreased in geographic areas where unemployment rate was higher, more people were associated with technical occupations, more people lived below the poverty level, and where median family income was higher.



Gilkey, P.E. (1986). The Army's GI Bill Advertising Awareness Survey: A Discriminant Analysis (Report No. USAREC-RM-86-2). Fort Sheridan, IL: Army Recruiting Command.

In March 1985, the US Army began an advertising campaign for the New GI Bill. A survey sponsored by the US Army Recruiting Command and conducted by Crossley Surveys, Inc. provided several conclusions concerning the effectiveness of the advertising campaign. This research memorandum reports use of discriminant analysis to further interpret the results of the survey. This analysis distinguishes between those with a positive propensity to enlist and those with a negative propensity. It also compares the effects of advertising to the effects of other variables on propensity. Results show that the most discriminating factor is the prospect's attitude toward learning a management skill. Those with a positive propensity feel that learning a management skill is important while those with negative propensity feel it is less important.

#### Joint Service Advertising

Boltz, D.G. (1991). Motion Picture Effects on Public Understanding, Recruitment and Retention in the Military: Exploring the Situational Factors of Involvement and Celebrity Influence. Maryland University, College Park.

This qualitative study was conducted to determine if, through government assistance to producers of entertainment-oriented motion pictures with military themes the armed forces in general and the Army in particular are: (1) increasing public understanding of the U.S. Armed Forces and (2) enhancing U.S. Armed forces recruiting and retention programs. It differed from past audience research in that it was framed in media effects theory and the situational theory of publics, with particular attention to the factors of involvement and celebrity influence as they may relate to reported changes in knowledge, attitude or behavior. The author conducted a series of focus group interviews with first-term Army soldiers and high school students to evaluate the public information and recruitment or retention value of the movies. The study confirmed that entertainment-oriented motion pictures with military themes have only a situational effect on individuals. It also proved valuable in identifying some of the situational factors that can be used for audience segmentation.

## Recruiter Productivity

Barfield, L.C. (1993). An Analysis of Enlisted Navy Recruiter Productivity and Incentive Programs, FY 1988 - FY 1990. Naval Postgraduate School, Monterey, CA.

This thesis analyzes the productivity of enlisted Navy recruiters for the time period FY 1988 FY 1990. The objectives of this thesis are to examine: (1) productivity by geographic area, (2) productivity with respect to the racial/ethnic background of the recruiter and the individual recruited, (3) productivity by gender of recruiter and gender of recruit, and (4) recruiter productivity under two separate incentive program eras. Descriptive statistics are used to show the actual productivity differences, followed by multivariate regression analysis to examine specific effects of gender, ethnicity and geographic location on recruiter production. Bivariate analysis is employed to compare the differences in recruiter productivity between the two incentive program eras. The results show that, with respect to ethnic background, recruiters are significantly more productive when recruiting individuals like themselves than when recruiting individuals of a different ethnicity. Females were found to be more productive than males when recruiting females and geographically, the southwest area of the country was most often significantly more productive than other areas. The thesis provides recommendations to assist Navy Recruiting Command in the assignment of the most effective and productive recruiters to the field in response to possible changes in specific goal requirements. Further study with current, detailed goal information is needed to assess the impact of incentive programs on recruiting and to examine the trends that should now be established with the current incentive programs.

Chonko, L.B., Madden, C.S., Tanner, J.F. & Davis, R. (1991). Analysis of Army Recruiter Selling Techniques (Research Report 1589). Alexandria, VA: U.S. Army Research Institute.

During 1990 the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) conducted research on Army recruiter on-the-job training (OJT) programs. This report is one of a series of three reports that documents the research efforts. The report presents information about recruiter selling techniques, effectiveness, and alternatives, and makes recommendations for improving selling effectiveness.

Elig, T.W., Gade, P.A. & Eaton, N.K. (1981). Performance Criteria Development for Army Field Recruiters. Alexandria, VA: U.S. Army Research Institute.

A variety of measures which have served as criteria of recruiter performance are discussed. New approaches to productivity measurement are developed to reflect both the

relative value of different recruits to the Army and the influence of area productivity of 612 Army recruiters is presented. The large influence of District Recruiting Command fertility on individual recruiter productivity (accounting for 32% of the variance) was found to be primarily due to low priority recruits (those recruits who have low AFQT scores and/or did not get a high school diploma): DRC average production accounts for 34% of the variance in production of low priority recruits while it accounts for less than 9% of variance in production of high priority recruits. Managerial implications of area fertility adjustments of recruiter production are discussed. Recruiter reactions to performance appraisal adjustments for DRC fertility are considered.

Herd, A.M. & Teplitzky, M.L. (1992). Special Forces Recruiting: An Overview of Current Procedures and Issues. Western New England College, Department of Management, Springfield, MA.

The research examines the Special Forces (SF) recruiting process, from setting and allocating the mission to processing and scheduling applicants for the Special Forces Assessment and Selection (SFAS) program. Data were obtained through interviews and surveys of SF recruiters and interviews of key staff members at the U.S. Army John F. Kennedy Special Warfare Center and School (USAJFKSWCS) and the Total Army Personnel Command (PERSCOM). Descriptions of the components of the recruiter's job and the steps of the missioning process provide background and context for ARI's larger SF recruiting research project. In addition, the issues and suggestions raised by SF recruiters will help guide efforts to streamline and improve the overall system.

Lyons, S.R., & Riester, B.A. (1993). US Army Recruiting: A Critical Analysis of Unit Costing and the Introduction of a Recruiting Bonus Incentive Model. Unpublished Master's Thesis. Naval Postgraduate School. Monterey, CA.

This thesis accomplishes three goals: (1) Provides an overview of US Army Recruiting. (2) Identifies limitations in the Army's application of unit costing as a management tool in the area of recruiting. (3) Introduces a bonus incentive structure for recruiters that assists in maximizing market potential and provides management information to facilitate efficient resource allocations.

O'Hara, J.W., Gade, P.A., Elig, T.W., Eaton, N.K. & Hertzbach, A. (1983). Preliminary Assessment of the Army's Incentive Program for Recruiters. Alexandria, VA: U.S. Army Research Institute.

This research was part of a larger data collection effort conducted between August and October, 1981. Recruiters and station commanders were interviewed and surveyed to determine

their knowledge of and attitudes about the current incentive awards program. Recruiter attitudes toward the current award system were examined as a function of gender, performance, satisfaction with recruiting, and recognition received from commanders. Recruiter and station commander suggestions concerning changes in performance measurement, consequences of performance (the awards), and system management were examined as well.

Skidmore, M.L. (1992). Incentives for Recruiters. Naval Postgraduate School, Monterey, CA.

The purpose of this thesis is to study the different types of incentives for recruiters that are used in the private sector of the U.S. economy and in the U.S. Navy, and to examine how, if possible, incentives that are used for civilian recruiters can be applied to the Navy.

#### Enlistment Incentives

Balkin, D.B. & Groeneman, S. (1985). The effect of incentive compensation on recruitment: The case of the military. Personnel Administrator, 30, 29-34.

Interviewed 5,993 males (aged 16-21 yrs) to test the hypothesis that size of incentive bonus positively influences the recruitment of prospective enlistees into the military. It is concluded that intention to serve in the military is significantly and positively influenced by pay incentives, showing a difference from results obtained in a similar study by A. Korman et al (see PA, Vol 66:4507) in 1973. It is suggested that since pay incentives increased enlistment in the military, they may prove useful in the civilian sector.

Buddin, R. (1991). Enlistment Effects of the 2+2+4 Recruiting Experiment (Report No. RAND/R-4097-A). Santa Monica, CA: Rand Corporation.

This report describes the enlistment effects of the 2+2+4 recruiting experiment. The 2+2+4 program is a new Army recruiting incentive aimed at attracting high-quality personnel into the active Army and encouraging their later participation in the reserves. The program offers qualified recruits an additional option, beyond the normal set of enlistment benefits and choices: they may receive the Army College Fund (ACF) if they enter an eligible specialty for a two-year term of active service, provided that they agree to serve an additional two-year term in the Selected Reserve. This program was tested in a national experiment from July 1989 through September 1990.

Char, C.A. (1994). Enlistment Response to Changes in Monetary Incentives: Improving the U.S. Army Enlistment Incentive Review and Allocation Process. Air Force Institute of Technology, Wright-Patterson Air Force Base, OH.

This research proposes an analytical approach for assessing efficiency and effectiveness of the Army's Enlistment Incentive Review and Allocation Process. In this research, the author applies multiple regression-techniques to observations of monthly enlistment contracts for the time period covering October 1987 through July 1993. Bonus contracts, ACF contracts and total contracts were regressed against level of enlistment bonus, availability of the Army College Fund, unemployment rate, and state of U.S. involvement in overseas conflict. The author then used the estimated regression relationships to estimate bonus amounts required to stimulate enlistment and compared performance of true incentive levels against predicted results of regression models. The author then presents insights on the benefits that can be gained by applying elementary analytic techniques to the intuitive allocation process currently practiced by the Army's Enlistment Incentive Review Board.

Glaser, D.N., & Dutcher, J.S. (1994). Quality of Life: Literature Review and Recommendations for Measurement of military Outcomes (Report No. NPRDC-TR-94-3). San Diego, CA: Navy Personnel Research and Development Center.

Given that an estimated \$2 billion is spent annually by the Navy on Quality of Life (QOL) programs, meeting service members' QOL need is of primary concern to the Navy. The purpose of this report is to review the literature in regards to the relationship of QOL and its impact on such military outcome variables as retention, attrition, performance, readiness, and recruitment. Conclusions from the review were that: (1) Intent to reenlist was found to be one of the most potent predictors of retention, with other factors such as pay, services, housing, and job satisfaction, also, exerting their influence; (2) certain demographics, such as gender, may impact the attrition decision with other variables such as initial fleet assignment, pay, and attraction to the military role also playing a contributing role; and (3) desire to travel and the level of education/training provided by the Navy have been shown to influence recruitment/enlistment. Recommendations included the need to further examine QOL domains and existing information about QOL domains and military outcomes should be used to construct a survey to examine their relationship.

Kearl, C.E. & Nelson, A. (1992). The Army's Delayed Entry Program. Armed Forces & Society, 18, 253-268.

The Delayed Entry Program (DEP) is an important personnel management tool used by the recruiting commands of the military

services. This program allows individuals to delay reporting for active duty up to 23 months after signing an enlistment contract. The purpose of this research is to identify factors related to DEP loss, particularly DEP loss for the U.S. Army. The largest determinants of DEP loss are related to personal characteristics: age, gender, race, dependant status, and high school status. We also find that the improving economy and reduced recruiting incentives during fiscal years 1986 and 1987 increased DEP loss. With alternative employment opportunities more available, not only were recruits harder to attract, they were also harder to keep. There are significant differences in the influence of the explanatory variables across educational status and the length of the DEP contract. These reflect differences in enlistment motivation and job-search opportunities; differences may also be the result of various recruiting policies.

Korman, A.K., Glickman, A.S., & Frey, R.L. (1981). More is not better: Two failures of incentive theory. Journal of Applied Psychology, 66, 255-259.

Conducted 2 nationwide interview surveys of 16-22 yr old civilian males (each sample greater than 850 Ss) to assess the influence of incentives on enlistment in the US Navy. The 1st survey employed 17 different incentives, and the 2nd employed 15. Responses on a 5-point scale for single incentives and sets of 2 and 3 incentives were compared. Comparisons were also made of incentives differing in magnitude: \$1,000 vs \$3,000; 2 yrs vs 4 yrs of free college after 4 yrs of service; and 10% vs 25% of base pay for exceptional performance. No significant changes were found in disposition to enlist when either the number or the absolute magnitude of incentives was increased, thereby countering the assumption that a larger incentive is better. It is suggested that too large an incentive may even lead to distrust or a perceived threat to freedom.

Philips, C.E. & Manganaris, A.G. (1985). The Delayed Entry Program: A Policy Analysis. (Report No. TR-679). Alexandria, VA: U.S. Army Research Institute.

This research explores the effect of the Delayed Entry Program (DEP) on preaccession and first-term behavior of Army enlisted personnel. Two models, one exploring the DEP and preaccession behavior (DEP LOSS) and the other examining the impact of the DEP on first-term attrition, are combined to explore DEP policy trade-offs. Recruiting costs and training costs are used as a measure of DEP impact on force management. Specific Military Occupational Specialties (MOS) are examined and marginal cost measures are developed. Results show that when cost is considered, longer DEP lengths are recommended, when possible, for almost all personnel. Findings show that marginal costs vary by personnel characteristics and MOS job assignment.



Robertson, D.W. (1993). New Navy Recruit Survey (NRS) (Report No. NPRDC-TN-94-9). San Diego: CA, Navy Personnel Research and Development Center.

A survey was designed to assess effectiveness of recruiting incentives, advertising, and applicant processing. Items were developed for eight content areas-reasons for joining, influences from family and friends, parent background, ads awareness, ads influence, recruiter contact, special enlistment incentives, and job interests. The survey was administered in 1990-1991 to about 4,000 men and 1,000 women recruits. Top reasons to join the Navy were for high-tech training, preparation for a civilian job, travel, serve country, and fringe benefits. Of various Navy media ads, the highest impact was from brochures, followed by television and mail. The recruiter's help in providing details about Navy opportunities doubles the applicant's interest, highlighting the critical importance of effective recruiters. Most recruits (84%) first thought about joining the Navy before the 12th grade, including 31% while in the 9th grade or earlier. The long-term job interests of men and women reflected continuing patterns of so-called 'traditional' type jobs of each. For the Navy to compete effectively for high quality people, sites to administer the Armed Services Vocational Aptitude Battery (ASVAB) should be maximized. That is because high-quality applicants are strongly influenced when recruiters tell them what opportunities and specific programs are available from their ASVAB scores. The results provide useful information for allocating recruiting resources and developing sales strategies.

#### Resource Allocation

Elig, T.W. (1985). Attribution Dimensions, Self-Serving Biases, and Actor-Observer Differences in Work Performance Attributions (Report No. ARI-TR-694). Alexandria, VA: U.S. Army Research Institute.

The quarterly cost of enlisting 40,000 people for the active forces of the U.S. Army in 1981 was estimated by the Army Audit Agency to be \$145 million, with an average cost \$3,600 per recruit. Direct personnel costs for field recruiters in the period studied were \$20.8 million, with additional indirect costs (e.g., training) of \$11.7 million. Based on these Army Audit Agency figures for FY81, an efficiency increase in production recruiters sufficient for a 1% decrease in the number of recruiters would have saved \$1.3 million in FY81. Responsibility for the management of the day-to-day productivity and efficiency of field recruiters lies with recruiters themselves and with their immediate supervisors--station commands. For both recruiters and station commanders, the maintenance of a high state of efficiency and productivity is important in meeting recruiting goals. Because of the potential for attributional analysis to aid in the understanding and improvement of



recruiting, the performance attributions of 173 Army field recruiters and 53 station commanders were studied. The purpose of the research reported here was to investigate--for the first time in a field setting--applications of attribution theory to job performance in superior-subordinate situations. This research can further the development of attribution theory while having application to the management of the recruiting force.